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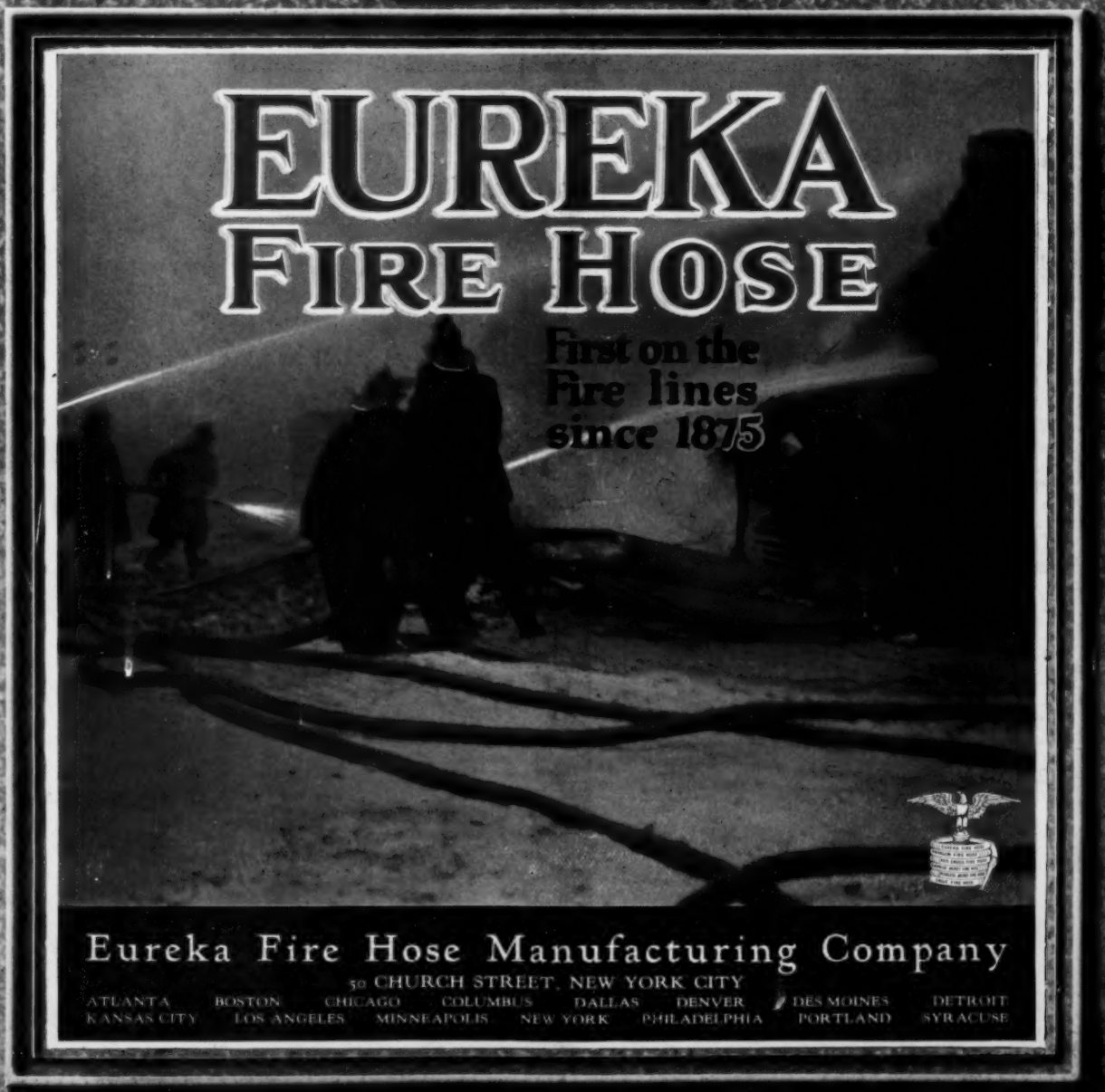
FIRE ENGINEERING

A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

MAY 4, 1927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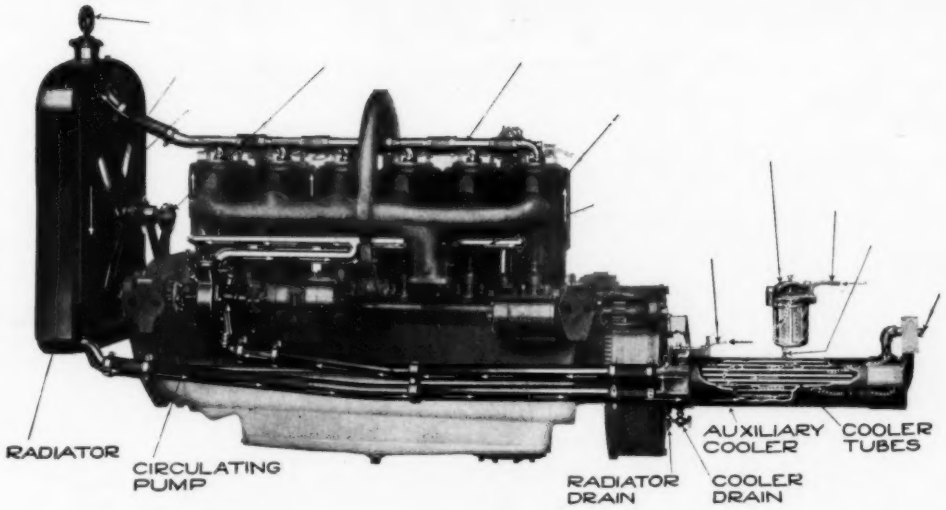

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The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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¶ We shall be interested in hearing of any unusual experiences our readers in the stricken districts have met with, and we can assure you that the fire departments of the entire country will take a deep interest in the accounts that come out of the flooded regions.

The Publishers

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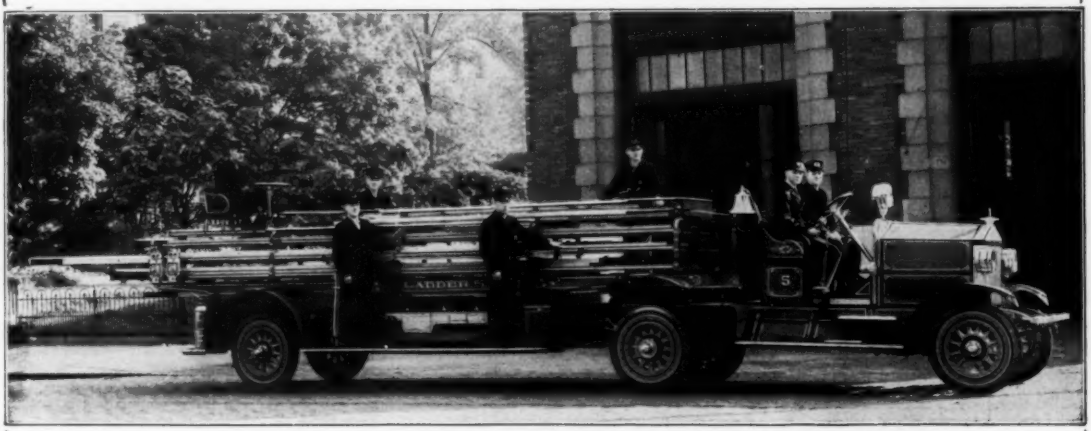
Ahrens-Fox



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Against Fire

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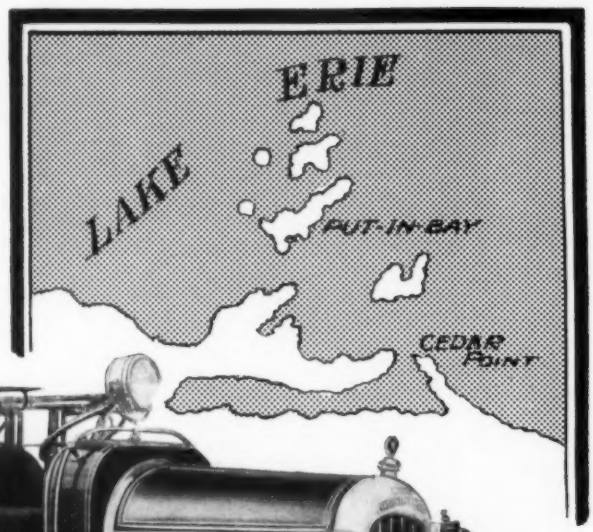

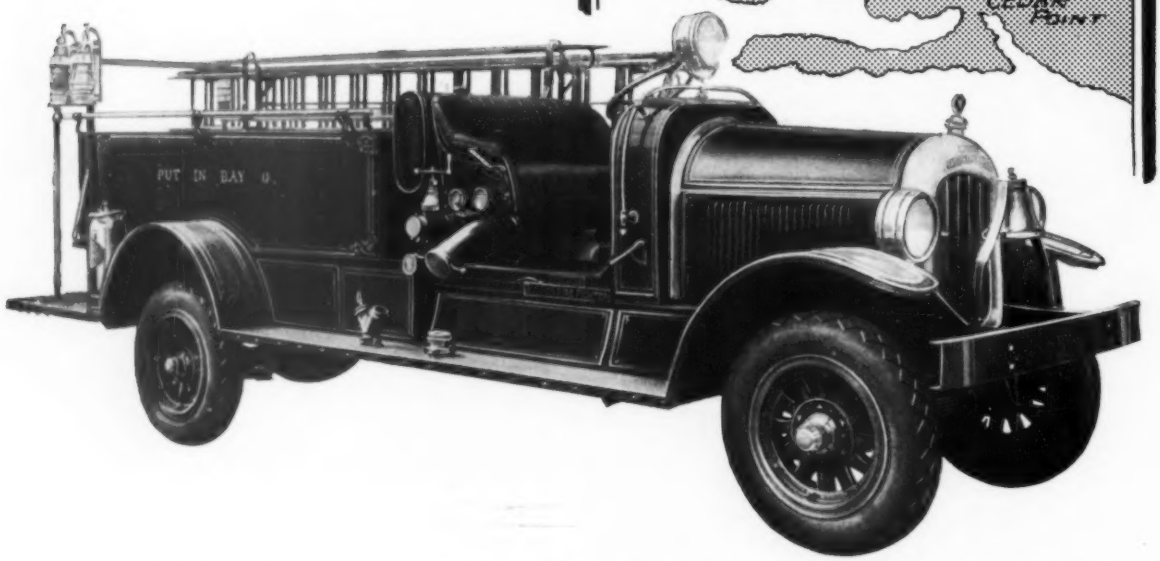

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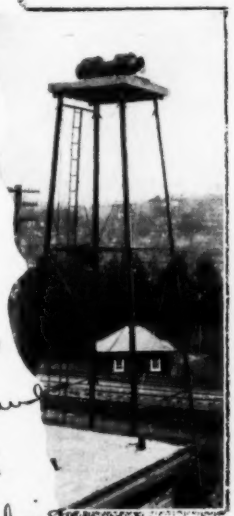

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are very well satisfied with it. It has yet to
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Steps should be taken to give this valuable property the same protection as the older sections of the city. The only sound way that this can be done is by means of a definite program which provides for adding a certain number of fire alarm boxes each year.

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Newton Upper Falls, Mass.

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FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXX MAY 4, 1927 NUMBER 9

The Dynamite Corps in Fire-Fighting

Scientific Methods in the Use of High Explosives Taught Los Angeles Men—Many Uses of the Corps

By FIRST ASSISTANT CHIEF SAMUEL H. DODD, Los Angeles Fire Department

EXPLOSIVES have been used to stay the progress of fires through the blowing up of buildings for many years, but this work has been largely of an unscientific nature and in consequence the results have been negligible, in many cases. It has taken the progressive chief of the Los Angeles Fire Department to reduce the matter to an exact science, and organize a body of trained men for just such emergency work. What this "Dynamite Corps" has accomplished and its methods are told in the following article:

The greatest asset to the modern fire department in case of fire is the water supply; and the question arises, is the water supply ample enough to be depended upon in case of a conflagration, and if it should fail at such time, what means have been provided by those in charge of the department to prevent the spread of the conflagration?

As a matter of fact, when the water supply has failed, in a number of cases, those in charge of the fire had to depend on high explosives, often with poor results; therefore, the use of high explosives was condemned. Nevertheless, the fact remains that those using high explosives were, in a number of cases, men without practical experience in demolition, who merely had had experience in blasting in mines or road work and therefore could not be expected to place explosives or handle shots to the best advantage in demolition work.

Fig. 1. (Upper), Part of Dynamite Corps of One Division, Los Angeles Fire Department. The Instructor, A. Deegan, Is Shown in Civilian Attire. Chief Augustine, in Charge of the Division, is Sitting on His Right. Fig. 2. (Lower), Close Up of Members of "A" Division of Dynamite Corps. Battalion Chief O. B. Lewis Is Just Back of Cross Mark on Dynamite Box. Class Is Being Instructed in Method of Cutting and Splicing Cordeau

Chief Scott, Los Angeles, Organizes Dynamite Corps

Chief R. J. Scott, however, believed in looking forward to having the members of our fire department trained in the handling of high explosives, in order that, if the occasion ever arises, our own men would be able to take over this important task.

Fig. 3. Members of Dynamite Corps Carrying Explosives for Opening New Fire Break in Mountains

With this thought in mind, through the kindness of P. H. Rennie, president of the Pacific Coast branch of the Giant Powder Company, who assigned to us two experts of this company, J. Costello of San Francisco and A. Deegan of Los Angeles, we organized on November 16, 1925, the Los Angeles Fire Department Dynamite Corps, with a personnel of 60 men, divided into two corps of 30 men each, representing both divisions of the department, and in command of Battalion Chiefs W. H. Augustine and O. B. Lewis, two of the youngest battalion chiefs in point of service in the department (See Figs. 1 and 2).

Reason for Large Membership of Corps

This was done in order to give the department the benefit of the greatest number of years of service of the men in this particular branch. Twenty-six of the men in each of these corps were assigned certain duties, leaving 24 men unassigned but able to fill any position in the corps. No doubt a smaller number of men might be deemed more efficient but when you consider that a number of men may leave the department, or be off sick, or away on vacation, by having a large number of men, all drilled and able to fill any position in the corps, you will find use for all of them in case you are called upon to use high explosives, as might be expected in case of a conflagration.

After conferring with dynamite experts, the department purchased 2000 pounds of 100% gelatine, dynamite caps, cordeau, fuse, wire, firing batteries, galvanometers; in fact, everything needed in handling and detonating high explosives, and they were placed in special magazines provided for the purpose.

The next step was to find a location where practical work could be done with these high explosives; but first we had the

men go through a course of instruction at the Fire College, consisting of lectures, demonstrations and drills with dummy caps, explosives, etc. After each man had become proficient in his duties he was instructed in the general duties of the work, in order that he might understand every part of it.

In the meantime, we had located an old, abandoned reservoir of massive reinforced concrete construction in a remote canyon several miles from the city (Fig. 4). Classes were taken there for practice, and the entrance of the canyon was guarded so that no person except a member of the corps was allowed on

Fig. 4. Practice in Blowing Out Heavy Concrete Wall. Notice Thickness in Construction of Wall

the drill grounds. Members were required to wear overalls and uniform caps (in order to keep track of the men by means of their badge numbers) and deposit all matches and tobacco at the entrance gate, as no smoking was allowed, and by this method there would be removed the temptation to steal away for a smoke, which might prove disastrous to all.

Instruction in Practical Work of Demolition

Classes were put through the practical work of demolition (Fig. 5), the officers in charge making the survey, sending out flagmen, ordering the cordeau brought in. (Cordeau is a detonating cord, being a small lead tube filled with TNT, with a detonation velocity of 16,000 ft. per second. It is slit and spliced from the main line into the different locations.) Dynamite is then placed at prescribed locations, dynamite caps tested, and connected to the cordeau, all connections inspected, and if found all right, the vicinity is ordered cleared and connections made to "lead" wire, and flagmen notified that shots are ready to fire. This is followed by roll call of members at the battery, lines are then connected to battery and the charge fired. Proper observers look over results of charge before the rest of the crew is allowed to return to the scene. Drills are also held with the standard fuse, but cordeau is preferred.

Use of Dynamite in Oil and Brush Fires

The large and disastrous oil fires on the oil tank farms containing millions of barrels of oil near Los Angeles last year impressed the oil companies with the necessity of having adequate facilities for quickly throwing up large earthen dykes to hold in check any burning oil waves which might go over the dykes already constructed. This required hundred of men equipped with shovels, plows, tractor machinery, etc., as the surface ground was very hard.

At our drill grounds we demonstrated that the ground could be loosened and dykes very quickly thrown up with dynamite when handled by a trained body of men (Fig. 7), and in the near future the oil companies in this part of the State will call on us for this aid, if deemed necessary, in case of an oil conflagration.

We tried out the system of extinguishing brush fires with dynamite (Figs. 3 and 6), but were hampered somewhat in the work by the dry season and from the fact that we were forced to work on private property; and the owners were afraid that the brush, being very dry, the fire might extend and cover a larger territory that was desired. However, we were convinced that high explosives could be used to good advantage in this way, although quite a large amount would be required for it to be properly done.

Corps Also Used in Flood Work

We were also convinced that it pays to have such a corps of men, as the recent heavy rains here resulted in flood conditions which caused a river to cut a new channel, washing away part of a city block of houses. To prevent further damage, part of the dynamite corps was called into service and by blowing up the debris which blocked the natural bed, the river flowed back into its regular channel.

A fire department should be equipped and its members drilled to meet any emergency, and although some cities may be favored by situation with an auxiliary water supply, such as ability to draft water from the ocean, rivers or lakes, many cities are not so favorably located, and in case of a disaster affecting their water supply, they should be prepared for the emergency. If that occasion should ever arise, we believe that a well-trained demolition corps would prove a very valuable asset.

Fire College Questions for Dynamite Squad

The following is a list of the questions in instructing the Los Angeles Dynamite Squad in the Fire College:

(1) In demolition of buildings, where should explosive charges be placed?

Answer: Charges should be placed along foundations, walls, under supports and around pillars or columns. (See cut No. 1).

(2) Why should explosive charges be kept close to foundations of buildings, walls, etc?

Answer: First, because it is the most logical place, from a demolition standpoint, for if foundation is destroyed, building will collapse in practically its own dimensions. Second, to avoid throwing of debris and consequent danger to lives, also to avoid as much as possible danger of spreading fire.

(*Continued on page* 439)

Fig. 5. Dropping Chimney Into Limited Area by Use of "Delay" Shots

The picture shows the first shot loosening the top, followed, a second later, by a shot in the middle. Both of these shots are just strong enough to loosen the chimney; and the final shot a few seconds later brings the chimney down in a heap at its base.

Subway Fire Slows Up New York

Large Section of Mid-Town Area Without Phone and Electric Service for Two Days—Two Separate Fires

By WILLIAM JEROME DALY

FOLLOWING close on to the Hotel Netherlands fire over five hundred feet above street level, versatile New York went to the other extreme on Sunday afternoon, April 17th, when fire broke out in the new rapid transit subway under construction along Eighth avenue in the vicinity of 36th street, approximately 50 feet under the roadway.

The fire (in baseball parlance) was a double header—two separate two-alarm fires seven hours apart were sent in—about four o'clock Sunday afternoon and about ten o'clock Monday morning. The blaze was one of the worst public inconveniences that ever struck the cosmopolitan town of New York; it disabled 2,150 trunk lines of the New York Telephone Company, making 13,100 telephones useless for two days; it "killed" the power cables and lines of the Edison Company, leaving one of busiest districts in the heart of the city without light, power and heat.

As fires, both of the blazes were not unusual and save for a lot of overhauling, they were extinguished in fairly good time, but the havoc they wrought to the commercial world of mid-town Manhattan will never be forgotten by the many merchants and business men who suffered great industrial handicaps and loss of business.

Two Fires Occurred

The first fire originated late on Sunday afternoon from an unascertained cause, under the decking or staging which forms the temporary roadway of Eighth avenue at 36th street where the subsurface has been excavated and where the city's new rapid transit system is now in course of construction. At that point, the cables, conduits and ducts of the public utility companies, as well as fire alarm circuits, police department lines, private police alarm wires maintained by individual protection corporations, form a sort of nest immediately under the wooden decking.

Smoke was seen issuing from the temporary sidewalk. The creosote in the wooden decking produced an acrid smoke and soon the fire engines arrived with Deputy Chief Joseph O'Hanlon in command. He sent in a second alarm. The fire was in the decking and covered a substatial area. The largest amount of work was by the truck companies for much of the decking had to be removed.

Burning insulation added to the many troubles, and then the power cables began to sputter phyrotechnics. The blue flashes made conditions perilous, but eventually the firemen mastered the situation and called it a day.

Swarms of trouble hunters and emergency repair men worked all night at the task of trying to restore service. The identification tags on many of the lines had been burned. The assignment of bridging the burned area of the lines was most trying, but the real effect was not felt until Monday morning when the section tried to open up for business.

New York without its telephone is like a frontiersman without his horse. The panic was on full blast, when at 9:40 a. m. Monday morning another fire broke out in the same place—below the decking.

Acting Chief of Department John Davin who was substituting for Chief Kenlon, sent in a second alarm. How the second fire started has as yet not been determined. It was said that the electric light company in an effort to offset the damage done the day before, attempted to tie-in some of its customers on temporary connections at the trouble point and in so doing, over loaded the lines, resulting in a blow out. This, however, is emphatically denied by the official spokesman for the Edison Company.

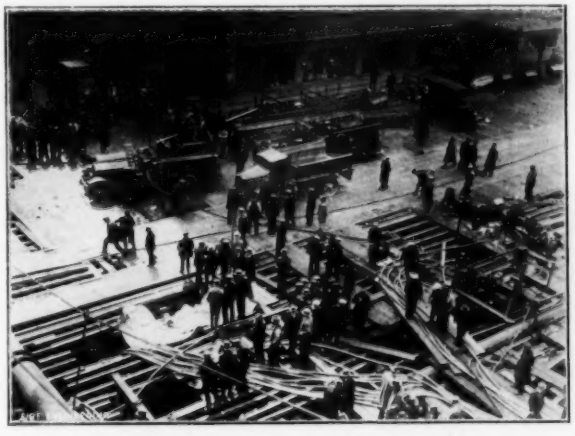
Telephone Company Not Responsible

The Telephone Company is absolved from all blame by the city's engineers, since the telephone lines are not capable of producing fire. The contractor who has that particular area of the subway construction work disclaimed any responsibility whatsoever and denied that his workmen had exposed the lines to the possibility of starting a fire.

The second fire lasted nearly two hours and what damage the fire of the day before may not have done, the Monday morning fire completed. Elevators in tall buildings were as "dead" as the proverbial door-nail. Lights out, machinery stopped, the needles and garments trades right in that district were left in a dormant state. Four of the busiest telephone central offices in New York were silenced—they are Pennsylvania, Chickering, Wisconsin and Longacre. Thousands upon thousands of persons who dropped nickels in the telephone coin slots, lost the money. It could not be returned, for "Central" did not even know it had been dropped. Those who were "marooned" in the tall loft buildings lowered all manner and kind of make-shift containers out the windows and yelled down to store keepers and runners to fill the improvised conveyors with coffee, milk, tea and what have you for lunch.

Affected Area Badly Tied Up

Lunch rooms in the immediate vicinity of the crippled office buildings did a thriving business in sandwiches and make-shift lunches as the office staff refused to exert themselves unnecessarily in climbing stairs. Mail service, too, was affected. Letter carriers were unable to maintain delivery schedules to the offices. The bundles of letters were deposited with the elevator starter, who at that time had a position by title only, and office boys made frequent trips down stairs for the mail. Candles and lanterns dimly illuminated the stairways. Those brave enough to consider a walk up to some lofty office to transact business had to grope their way up a poorly lighted stairs.



The Center Point of the New York Subway Fire

Since the fire was undeground, the photograph does not convey an idea of the great damage done. A small portion of the maze of telephone cables are shown above ground. Hundreds of telephone and electric service repair men labored incessantly underground in the frenzy of repairing the lines placed out of service by the fire.

The police signal system was affected. Messenger service was established from various points in the affected area, and written and verbal orders were carried from police headquarters to the men on post by other policemen who attempted to carry on the work disrupted with the break down of the telegraph system.

"Fire Engineering" Also Affected

The offices of FIRE ENGINEERING on the 14th floor of 225 West 34th street were likewise crippled—the staff being compelled to walk up and down the 14 flights of stairs. When dusk set in, there were no lights. Business was stagnant. Workers were sent home. It was estimated that fully 25,000 persons, principally in the garments, fur, and general needle trades were out of work for two days.

This is the second serious fire which has occurred in the structure of New York City's new subway. The former fire was last January, at 125th street and St. Nicholas avenue, where two salamanders which had been placed too close to the ceiling which forms the decking of the roadway set the roadway afire, necessitating a second alarm. On that night over 500 fire alarm signal boxes were six hours out of service.

In both instances, the fire last January and the two fires on April 17th and 18th respectively, occurred on sections of the subway work under contract to Samuel R. Rosoff. Mr. Rosoff said the damage in both cases is heavily covered by insurance.

Chief Matt Cullen Resigns

Matt Cullen, chief of the Springfield, Ill., fire department, resigned from the service at the age of seventy years. William H. Funderburk, third assistant chief, will become chief the early part of this month.

Chief Matt Cullen

Chief Cullen retires after a very eventful life as a firemen. He was injured twice in the line of duty, once when a section of a wall fell on his head, and another time when the apparatus on which he was responding to a fire crashed into a telegraph pole because of defective stearing gear.

He was born in Springfield in 1857 and became a member of the fire service on May 3, 1883. He was promoted to captain in 1891, assistant chief in 1912 and chief in 1920. At the time Mr. Cullen joined the department there were twelve full paid firemen—today the department consists of eighty-six men. At that time the firemen received a salary of sixty dollars a month and Chief Cullen said that it went much further than the present firemen's pay of $140 a month.

The chief has been on the scene at every important fire in the past forty-four years and he also fought bad fires in the neighboring cities. One of the important changes following his appointment as chief was the introduction of a system of keeping complete records of fires and alarms.

I. A. F. C. to Have Demonstration Day

In connection with the program being arranged for the convention of the International Association of Fire Chiefs in Portland, Ore., Chief Albert Herring of Murphysboro, Ill., chairman of the exhibits committee, is arranging for a demonstration day.

One day is to be set aside for demonstration of equipment exhibited by the various manufacturers. Chief Herring urges manufacturers who desire to get a place on the demonstration program to communicate with him.

A special freight train will leave Chicago on July 24 bearing the freight shipments for the convention and arriving in Portland on August 1, at a depot just five blocks from the exhibit hall.

Kentucky Chiefs to Meet in June

Chief Alex Bache, of Louisville, Ky., president of the Kentucky State Fire Chiefs' and Firemen's Association has announced that the annual convention of the association will be held in Owensboro on June 21-23. Chief Cureton of Owensboro is preparing the ground work for what promises to be an interesting gathering.

The dues of the association are two dollars a year, and all firemen are eligible to join.

Captain S. G. Render, secretary of the association, 303 Speed Building, Louisville, Ky., is in charge of the hotel reservations. Hotel accommodations can be had at rates from one to four dollars a day.

Ellington, N. Y., Celebrates Apparatus Arrival—The arrival of a new chemical car in Ellington, N. Y., was celebrated by an oyster supper and entertainment.

Waterbury, Conn., Firemen in Apparatus Crash—Five members of Company 2 in Waterbury, Conn., narrowly escaped death when the hose wagon on which they were responding to a fire backed down a steep hill and crashed into a telegraph pole. It was necessary to amputate the legof one of the firemen, and the others received minor injuries. The apparatus was damaged beyond repair.

Fire Alarm Superintendents Meet

Thirty-five members of the Eastern Association of Fire Alarm and Police Signal Superintendents met at fire headquarters, Bridgeport, Conn., on April 13-14, for the annual spring meeting of that organization. Many interesting subjects pertaining to fire alarm and police signal supervision were discussed during the two day's meet. One of the interesting parts of the program was the address by Frank Gillooly, Sales Engineer, Sterling Siren Fire Alarm Company, on "Coding Signals." This was followed by a demonstration of a fire horse power double headed coding siren which had temporarily been attached on the roof of Fire Headquarters.

Part of the first day's program was taken up with a very interesting talk on "Charging of Storage Batteries," by W. H. Beadle, operating engineer of The Electric Storage Battery Company, Boston, Mass. Mr. Beadle's talk was followed by a round table discussion of fire alarm signal rules.

At 6 o'clock the members sat down to a delightful dinner at the Stratfield Hotel.

"Latest Developments in Traffic Control," was the subject which T. G. Regan, traffic signal specialist, spoke on after the opening of the meeting on the closing day of the session. Much valuable information was contained in Mr. Regan's address which was received with applause.

The meetings were presided over by President E. A. Sullivan, Superintendent of Fire Alarm and Police Signals, Hartford. The other officers of the Association are: First Vice-President, Leonard Dawson, Newtown, Mass.; Second Vice-President, M. E. Orrell, Worcester, Mass.; Secretary-Treasurer, G. H. Bowen, Boston, Mass.

It was voted by the organization to hold the annual meeting and election of officers at Hartford, Conn., on June 8-9. A vote of thanks was extended to H. N. McCathron, president of the Board of Fire Commissioners at Bridgeport, Chief Daniel E. Johnson and Supt. R. A. Brown of Bridgeport, for the many courtesies extended the members during their stay in Bridgeport. Those in attendance at the meetings were:

Frank M. Tiffany, Gamewell Company, Boston, Mass.; James Warnock, Swampscott, Mass.; E. P. Cochran, New Haven, Conn.; C. C. Church, Norwood, Mass.; L. W. Allen, New York City; C. J. Peacock, National Board of Fire Underwriters, New York City; V. O'Keefe, Holtzer-Cabot Electric Company, Boston, Mass.; W. H. Greenlaw, Beverly, Mass.; F. Meuiner, East Hartford, Mass.; M. Orrell, Worcester, Mass.; George H. Bowen, Boston, Mass.; H. H. Berry, Springfield, Mass.; E. A. Sullivan, Hartford, Conn.; Frank Gillooly, Sterling Siren Fire Alarm Company, Rochester, N. Y.; A. C. Ames, Providence, R. I.; L. Dawson, Newton, Mass.; C. W. Mitchell, New York City; R. A. Glenn, Bridgeport, Conn.; W. H. Beadle, The Electric Storage Battery Company, Boston, Mass.; C. W. Murphy, Gamewell Company, Boston, Mass.; H. C. Kleinfelder, Farren Cable Company, Boston, Mass.; A. E. Cook, Meriden, Conn.; Fire Commissioner E. T. Golden, Meriden, Conn.; C. K. Ahearn, Waterbury, Conn.; E. S. Hall, Stratfield, Conn.; Robert Veit, Stamford, Conn.; A. L. Pierce, Wallingford, Conn.; W. D. Jennings, General Electric Company, Pittsfield, Mass.; L. Spar, Hamden, Conn.; George Cooley, New Britain, Conn.; R. Arthur Brown, Bridgeport, Conn.

THOMAS F. MAGNER.

Fire Alarm Superintendents Meet in Bridgeport

Reading from left to right, those standing are F. Tiffany, E. Warwick, A. Golden, F. Beattle, L. Spar, G. Bowen, F. Gillooly, E. Sullivan, H. Kleinfelder, V. O'Keefe, M. Orrell, C. C. Church, E. Benz, H. Berry, Arthur Cook, E. S. Hall and R. A. Brown. Seated, left to right, E. Corcoran, H. Thompson, W. Murphy, R. Glenn, F. Meuiner, E. Coolley, G. Peacock, G. Ames and R. Veit.

Chief Gilbert of Newman, Ga., Dead—Chief W. L. Gilbert of Newman, Ga., died recently at a local hospital following an operation. He was thirty-nine years of age and was chief of the department for ten years. Chief Gilbert leaves a wife and three children.

Inspection Would Have Checked Fire

Incomplete Knowledge of Plant Directly Responsible for Second Blaze—Suggested Method of Operation

THE lesson emphasized by the fire described in the last issue of this journal is the absolute necessity of knowing an establishment in order to efficiently operate at a fire therein.

Another point which the handling of the second fire illustrated was the value of large streams where serious exposures are at hand.

The layout of the plant is shown in the sketch herewith. The group of buildings, as noted in the original description of the fire, constituted a very severe layout once fire had gained headway.

The grain elevator of timber construction, was 70 feet high. The frame flour mill, five stories in height with frame storehouse two stories in height.

The coal yard, freight shed and grain storehouse along the railroad tracks all were of highly inflammable construction.

Although the power plant directly adjacent to the flour mill was well built, it was not able to withstand the exposure when the fire in the mill reached its height.

One feature of the plant layout which was completely overlooked by the fire department was the subterranean tunnel running from the basement of the flour mill to the basement of the grain elevator. Undoubtedly this was the means of fire communicating from the flour mill to the grain elevator.

The Department

The department in the city in which this fire occurred consists of 6 engine companies and 2 truck companies.

Response to alarms is as follows: First alarm, Engine Cos. Nos. 1 and 2; Truck Co. No. 1.

Second alarm, Engine Cos. Nos. 3 and 4 and Truck Co. No. 2.

A general alarm brings out the 2 remaining companies, Engine Cos. Nos. 5 and 6.

All apparatus were motor propelled and all pumpers were of 700-gallon capacity with the exception of Engines Nos. 4 and 6 which were 500-gallon capacity machines.

Water supply in the neighborhood of the fire was satisfactory, although the pressure was not sufficient to operate hydrant lines, it being in the neighborhood of 30 pounds when there was a heavy draught on the 10-inch main.

Five hydrants were within easy reach of the fire, as shown on the sketch.

The Fire

The fire started around 3 o'clock in the afternoon of a working day in the basement of the 5-story frame flour mill.

The superintendent of the plant immediately had an alarm transmitted and in the meantime devoted the efforts of the crew to fighting the fire. Due to the denseness of the smoke in the basement of the flour mill men could not operate at close range so that the buckets employed were not effective in controlling the fire.

When the first alarm assignment arrived the fire was burning quite briskly in the basement of the flour mill and threatened to come up through the hoistways and chutes to the upper floors.

Upon its arrival Engine Co. No. 1 was stationed at hydrant No. 2 and two lines stretched at once to the flour mill, both lines operating down stairways leading into the basement.

Engine Co. No. 2 was stationed at hydrant No. 1 and a single line stretched to the same building.

These three lines after operating about a half hour had the fire apparently completely extinguished. At the time the department left the fire scene there was a large amount of water in the basement of the flour mill and it appeared that a thorough job had been done in wetting down.

The apparatus returned to its station and the mill was closed, shortly after the fire department left, for the day. A few men were kept on hand to move some of the flour from the ground floor of the flour mill to the rear building in order to reduce damage from water. Other men were employed in cleaning up on the ground floor.

The mill shut up finally at 6 o'clock and all but the watchman left.

At about 8 o'clock the watchman saw what he thought was the reflection of the setting sun in the upper windows of the grain elevator, but upon closer investigation discovered that this building was afire, with smoke rolling out of the back of the building in great volumes.

He immediately transmitted an alarm, bringing the same assignment as before.

Engine Cos. Nos. 1 and 2 were placed at the same hydrants as in the first fire and started operation.

The company commander noting the great progress the fire had made in the grain elevator immediately transmitted a second alarm.

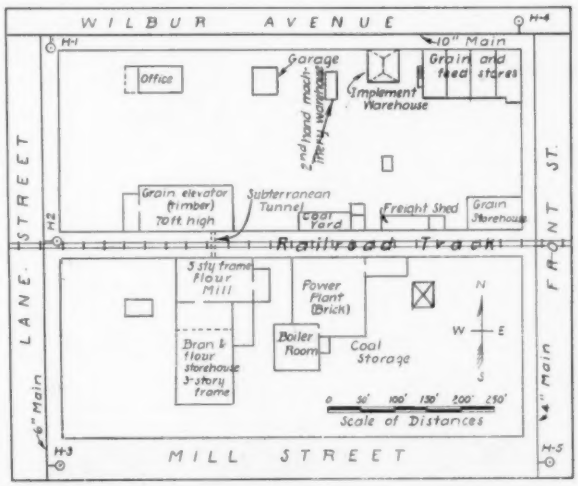
This brought out Engine Cos. Nos. 3 and 4 and Truck Co. No. 2.

Engine 1 which was stationed at hydrant No. 2 stretched in two lines to the grain elevator. Due to the type of construction employed, it was not possible to reach the fire in the upper part of the building, and the department had to content itself with operating into the lower part of the building and covering the outside as well as possible with streams available.

Engine Co. No. 2, placed at hydrant No. 1, stretched in a single line to the rear of the grain elevator.

Two lines held their respective positions and were operating on the elevator when the two engine companies on the second alarm responded.

Engine Co. No. 3 was placed at hydrant No. 4 and a single line stretched into the grain elevator. This line operated from



a ladder through the windows near the top of the elevator and did fairly effective work.

Engine Co. No. 4 was placed at hydrant No. 3 and a single line stretched to operate on the front of the grain elevator. This line also operated from a ladder placed by one of the truck companies and held its position for possibly 10 minutes when it was forced to retreat by the increasing intensity of the fire.

At this time the chief of the department arrived and immediately transmitted a general alarm calling out Engine Cos. 5 and 6.

In the meantime he ordered a second line laid from Engine Co. No. 2 at hydrant 1, this line operating on the rear of the grain elevator.

A second line was also ordered laid from Engine Co. No. 3 at hydrant No. 4, this line taking its position on the ground alongside of the lines from Engine Co. No. 2.

A fairly strong wind was blowing from the northwest carrying the fire from the top of the grain elevator toward the 5-story frame flour mill. The seriousness of this situation was not at first grasped, but by the time Engine Cos. 5 and 6 had arrived it constituted a very serious problem.

Engine Co. No. 5 was placed at hydrant No. 5 and a single line stretched to cover the flour mill on the railroad side.

Members of Engine Co. No. 6 helped man one of the lines from Engine Co. No. 2, which was shifted to cover the exposure to the coal yard near the grain elevator.

With this placement of lines the department continued to operate for possibly 10 minutes more when it was evident that

the elevator was going to be lost, fire having completely involved it on the inside.

From this point on fire spread rapidly. It jumped to the 3-story frame flour mill, which was soon involved, taking later the bran and flour storehouse at the rear of the flour mill, jumped to the power plant and boiler room, the coal yard and freight shed. All of these buildings were completely destroyed before the fire was finally checked.

Suggested Method of Handling Fire

Had the fire department been familiar with the layout of the plant, including the subterranean tunnel, the second fire never would have started. A thorough inspection of the subterranean tunnel would have prevented the fire from entering the grain elevator. This emphasizes the necessity of officers of a fire department making inspections of the various establishments to which they might be called to operate at a fire.

But assume that the fire entered the grain elevator and that the second fire got under headway as described.

The method of operation then would be as follows: All engines may well be placed as described in the preceding paragraph, Engine 2 at hydrant 1, Engine 4 at hydrant 3, Engine 3 at hydrant 4, Engine 1 at hydrant 2, and Engine 5 at hydrant 5.

But the use of streams will differ in that heavy calibre lines will be employed instead of small nozzles.

The two lines stretched from Engine No. 2 should be siamesed into a single nozzle, being equipped with a nozzle holder; 1½ inch nozzle to be employed.

This line to be stationed at the left to the front of the grain elevator, to cover flour mill.

Engine Co. No. 3 stretch in two lines also to a 1½ inch nozzle and this line also cover the 5-story frame flour mill.

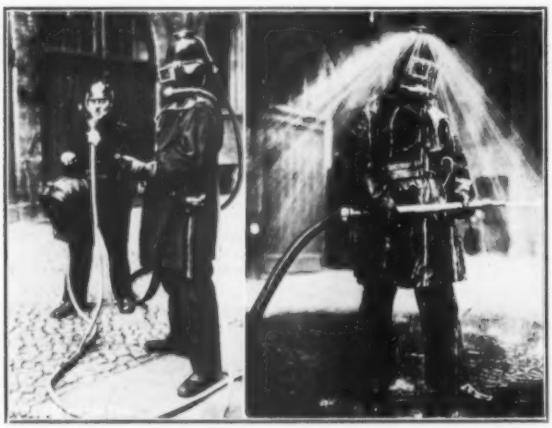
Engine Co. No. 1 likewise stretch in two lines to a 1½ inch nozzle to assist the other two lines in covering the frame flour mill.

Engine Co. No. 4 and Engine Co. No. 5 each stretch in a single line, equipped with 1¼ inch nozzles to cover other exposures. The line from Engine Co. No. 5 would cover coal yard and power plant, if such were exposed, while the line from Engine Co. No. 4 would assist in covering the flour mill and also other buildings which might be endangered.

The heavy lines would be employed in wetting down the grain elevator on the railroad side so as to kill the heat. This would make it easier for the lines to maintain a position and cover the flour mill.

While this assignment of lines would permit the grain elevator to burn to the ground, the fact that it was afire in the upper stories and that the fire entered the grain elevator from the basement would indicate that is well beyond saving by the time the department arrived.

By this arrangement it is very likely that the grain elevator only will be lost and that all other buildings will be properly covered.



Unique German Fire Helmets

The helmet shown on the left is a German production and is equipped with a speaking tube to communicate with an assistant, who also carries a bellows, which supplies air to the wearer of the helmet. The helmet in the right picture, also of German origin, has a spray attachment which acts as a protection to the fireman when exposed to flame or extreme heat.

Randolph, N. Y., to Install Siren—A siren will be installed in Randolph, N. Y.

Wife of George J. Kuss, Dead

Mrs. Nellie Kuss, wife of George J. Kuss, former deputy fire chief of the New York city fire department and a member of the editorial advisory board of FIRE ENGINEERING, died at her home in Brooklyn in her fifty-second year.

The family moved to Brooklyn when Chief Kuss was assigned to take the place of the late Chief O'Hara.

Mrs. Kuss is survived by her husband, her mother, a daughter and two sons. Interment was made in Woodlawn Cemetery.

N. Y. Firemen Seek Eight-Hour Day

A bill introduced in the Municipal Assembly (Board of Aldermen) of New York City, at the behest of the Uniformed Firemen's Association, affiliated with the International Fire Fighters' Association, has for its object an eight-hour day for the members of the uniformed force of the New York Fire Department. The bill has been referred to the Committee on Local Laws. A similar bill was introduced for the members of the police department, who now have a three platoon system.

The firemen of New York at present are operating under a two platoon system, an act of the Legislature, although the platoon system of duty was installed in the first instance by former Mayor Hylan, in the fulfillment of a campaign pledge to the firemen.

The latest measure for eight hours duty, was one of the ambitions of the late fireman Albert E. Guinness, president of the Uniformed Firemen's Association. The firemen, however, while favoring it, would be better satisfied, from the way some of them talk, with an increase in salary. There are those who feel that money rather than time would be more advantageous to themselves and their families.

However, here is the bill:

A Local Law in relation to the hours of duty of members of the uniformed forces of the Police and Fire Departments.

Be it enacted by the Municipal Assembly of the City of New York as follows:

Section 1. After June first, nineteen hundred and twenty-eight, no member of the uniformed forces of the Police and Fire Departments shall be required to be on duty for more than eight hours in any one period of twenty-four hours; and all such members shall be entitled to at least one day of rest in every calendar week. The heads of such departments shall divide all the members of such uniformed forces into such divisions and assign them to such tours of duty that the purposes of this local law shall be accomplished. But in the event of a strike, riot, conflagration or other similar emergency, or for the purpose of changing tours of duty, members of either force, and on an occasion when large crowds might assemble or on a day when an election is held, members of the Police Force may be continued on duty for such hours and in such numbers as may be necessary therefor.

Section 2. The provisions of the Greater New York Charter, of chapter three hundred and sixty of the laws of nineteen hundred and eleven as amended and of chapter two hundred and twenty-six of the laws of nineteen hundred and twenty-two, in so far as such provisions are inconsistent with this local law, are hereby superseded.

Section 3. This local law shall take effect immediately.

WM. JEROME DALY.

Cyrus Robinson of Eastman Nozzle, Dead

Cyrus Eastman Robinson, manufacturer of the well known Eastman nozzle, and representative to the New Hampshire legislature from East Concord, died at his home in East Concord just a few hours after the final adjournment of the legislature in which he was so prominent.

Mr. Robinson was well known in East Concord, both as a business man and one who took a keen interest in the affairs of the community. He served his community in the state legislature for three terms and he has always been appointed on important state committees.

He was born in East Concord. A wife, a son and three sisters survive him.

Mr. Robinson was a well known figure at the various large fire association conventions, and he is well known to the membership of the International Association of Fire Chiefs. His genial and obliging nature won him many friends. Besides the fire associations, he was a member of the Masons, Odd Fellows and the New Hampshire Historical Society.

Norristown, Pa., Builds Hose Troughs—Norristown, Pa., has constructed troughs under the railroad tracks at several points in the city. Should a fire make it necessary to lay hose across the tracks, the hose is placed through the troughs so that the firemen will not be interrupted by trains passing over.

New Rules of New York Fire Department

This Thirteenth Installment Covers Sections Dealing With Uniforms and Bill of Dress, Including Fire Hat and Caps

FOLLOWING is the thirteenth installment of the "Rules and Regulations of the Uniformed Force of the Fire Department of the City of New York," just issued by that department, and which are to be published serially in their entirety in FIRE ENGINEERING. *This book has been compiled and edited by Captain John J. McCarthy, of H. & L. No. 43, detailed in charge of the Division of Public Assembly at Fire Headquarters, who worked under the personal supervision of Chief John Kenlon. This installment includes sections covering Uniforms and the Bill of Dress, including Fire Hat, Uniform Cap and Cap for Summer Wear:*

Uniforms (Continued)

SEC. 301. The uniform shall be worn when reporting at, and upon leaving quarters, in connection with roll calls. It may be dispensed with:

a. In the dormitory and sitting room of quarters.
b. On the apparatus floor when engaged in the performance of house duties, except when on house watch duty.
c. In the performance of fire duty, or work incidental thereto.
d. When on regular or vacation leave of absence, on an off-tour, and when otherwise permitted by the Chief of Department.

SEC. 302. Except when written permission to do so is granted by the Chief of Department, the wearing of the uniform, or any part thereof, by any member of the Department at a place of amusement, ball, or other public assemblage of any character (except in places of worship), unless on Department business, is prohibited.

SEC. 303. Commanding officers shall be held strictly responsible for the condition of their uniforms and also for the condition of the uniforms of subordinates in rank under their command.

SEC. 304. When uniforms, or parts of uniforms, are needed, members shall not wait until directed by an inspecting officer before replacing such. All uniforms or parts obtained by members shall be reported, promptly, to inspecting officers, through regular channels.

SEC. 305. Commanding officers shall give written notice to members who may have uniforms condemned by an inspecting officer, specifying when such shall be replaced, and when members of companies are affected proper entry in the Company Journal of such action shall be made.

Bill of Dress

FIRE HAT

SEC. 306. Chief of Department—White helmet with eight cones, having a gilt front depending from a gilt eagle head, and attached to the front of the hat with the insignia of his rank painted upon it in black, shaded with red, and above, the word "Chief" in black letters, shaded with red, with a scroll of gold.

Deputy Chiefs of Department—Same as Chief of Department, with the insignia of their rank above the words "Deputy Chief."

Chiefs of Battalion—Same as Chief of Department, with the insignia of their rank above the words "Chief (number, Battalion," the number of the Battalion being indicated by large figures.

Acting Chiefs of Battalion—Same as Chief of Battalion, with the addition of the word "Acting" on the front.

Officers of Engine Companies—Same as Chief of Department, excepting that they shall be black and have a white front, with the number of the company cut out of them near the bottom, in plain black figures, on a background of black (three and one-half inches long, if it be a single figure, and two and one-half inches long if double figures, and two inches if triple figures), with the insignia of rank above them in gold, shaded with red.

Officers of Hook and Ladder Companies—Same as officers of engine companies, excepting that the numbers of the companies shall be on a background of red.

Captains of Rescue Companies—Same as officers' of engine companies, excepting that they shall have a white front with a blue border, one-half inch wide, number of company cut in center in plain blue figure, three and one-half inches long, on background of white, with insignia of rank, two life guns above, barrels pointing upward, trigger facing trigger, painted in gold and shaded in red.

Lieutenants of Rescue Companies—Same as Captains, with the exception that there will be only one life gun, placed horizontally above figure, barrel pointing to the right.

Engineers of Steamer—Same as officers of engine companies, omitting the insignia of rank, and excepting that the front shall be of black, with the numbers of the companies on a background of white and the word "Engineer" in white letters three-quarters of an inch long, painted on a line below.

Firemen of Engine Companies—Same as Engineers of Steamer, excepting that for the word "Engineer" the registered number of each member in figures one inch in length shall be substituted.

Firemen of Hook and Ladder Companies—Same as officers of hook and ladder companies, omitting the insignia of rank, and excepting that the front shall be of red, with the number of the company on a background of white, and the registered number of each member in white figures, one inch long, painted on a line below.

Firemen of Rescue Companies—Same as officers of Rescue companies, excepting that they shall have a blue front, number of company, three and one-half inches long, in white on background of blue and registered number of each member in white figures, one inch long, painted on a line below.

UNIFORM CAP

SEC. 307. Chief of Department—Of a modified United States regulation army pattern, of blue cloth with two welts; total depth, 3½ inches; diameter across top, 8½ inches for a size 7 cap; the top to be ⅛ of an inch larger or smaller for every size above or below the above head size; the quarters to be made of 4 pieces wired around the crown; band between the welts to be 1¾ inches; the lower welt to be ⅛ of an inch above the lower edge of cap and 1¾ inches of braid of silk velvet ribbon to be placed on band with strap of ½ inch real gold lace; cap to be provided with gold-plated regulation buttons; visor, to be of leather, 2⅛ inches deep at centre, bound with leather and to droop at an angle of 65 degrees; the inside of band to be of selected russet leather.

The insignia of rank, as prescribed, to be placed on the quarters, in the centre of the front, the lower points resting nearly upon the upper end of band.

Deputy Chiefs of Department and Chiefs of Battalion—Same as Chief of Department, excepting insignia of rank.

Captains and Lieutenants—Same as chief officers, excepting that there shall be provided 1¾ inches of real mohair braid on band of cap in place of silk velvet ribbon band, and regulation silver button on each side of cap instead of gold-plated button.

Engineers of Steamer—Same as Captains and Lieutenants, excepting trimming of any kind on band, omitting the insignia of rank and substituting therefore a white metal badge, 2¾ inches long and 2 inches high, with steam fire engine in an oval, 1¼ inches high and 2⅛ inches long in the centre, surrounded with an ornamental border with the word "Engineer" at the top and the registered number in raised figures below, to be fastened to the cap with an eye under each end, and the lower edge resting upon the upper edge of band.

Firemen of all grades—The same as Engineers of Steamer, omitting the insignia of rank and substituting therefor a white metal Maltese cross, 2 inches square, with the letters "F. D." on the top arm and the letters "N. Y." on the lower arm; a hook and ladder crossed on the right arm and a hydrant on the left arm, with the registered number of each member in raised figures, ⅜ of an inch long, in a circle 1 inch in diameter in the center, to be fastened to the cap with an eye under each side arm, the lower arm resting upon the upper edge of band.

CAP FOR SUMMER WEAR

SEC. 308. All Officers—Cap of double "London" shrunk linen duck made on haircloth frame 3¾ inches high, band 2 inches, quarters 1¾ inches, crown 9⅛ by 9⅛ inches, two covers for each cap, made detachable, sweat band to be of leather about 2 inches wide.

Chief officers' hats to be trimmed with gold braid, gold button on each side; Captains' and Lieutenants' with silver braid, and a silver button on each side, including Captains and Lieutenants of fireboats.

For all other members excepting those attached to fireboats:

Of United States army pattern, made of dark blue cloth, pure indigo dye, top 9 by 9½ inches, with band 1½ inches high, and quarters 1⅞ inches high, stiffened in front with haircloth sewed into seam of top and quarters; the top to have two small holes for ventilation, and to be lined with red silk, a narrow welt around bottom of band and top of seam of cap; the inner band to be of buckram; the visor to be plain, solid, black patent leather

(*Continued on page* 450)

SERVICE AT PERSONAL DANGER TO BE RECOGNIZED BY N. Y. F. D.

Announcement Made of Men Who Will Receive Fire Department Medals — Mayor Walker to Present Honors Some Time in May at City Hall

By William Jerome Daly

HAVING approved the findings and report of the Board of Merit of the New York Fire Department for the year 1926, Fire Commissioner John J. Doran has announced the list of fire heroes who last year distinguished themselves at great personal risk.

The medals will be pinned on the heroes at the City Hall by Mayor James J. Walker on a date to be fixed at his convenience late in May.

For the first time in the history of the New York Fire Department, a posthumous award has been made. It will go to Mrs. Lillian H. Nagle, widow of fireman Charles R. Nagle of Engine Co. 306. She will receive the Scott medal in memory of her husband's sacrifice on August 11, 1926, when he slid down a cable forty feet into a cesspool at Bayside, Queens, in an attempt to rescue three workmen who were unconscious from poisonous fumes.

The fumes were so deadly that Nagle never had a chance for his life. He was without mask or life belt. The three workmen were dead, but he didn't know it. It is estimated that he too died within five seconds of reaching the bottom of the pit. Then in utter disregard of the fate of his comrade, fireman John J. Whelan member of Hook & Ladder Co. 152, equipped with life belt and rope, but without a mask, ordered himself lowered into the pit in a vain attempt to save Nagle. As Whelan was about to tie a rope around Nagle, he too was stricken and toppled over the body of his fellow fireman. Whelan was hauled to the surface and rushed to a hospital, where with the aid of a pulmotor his life was saved. Whelan will receive the Bonner medal for his heroism.

Fireman Michael McInerney of Hook & Ladder Co. 12, will receive the Bennett medal for his rescue of a woman from the fourth floor window of her home. McInerney ascended an aerial ladder which was too long and consequently passed beyond the fourth floor window, leaving a gap of five feet between Mrs. Chamberlain and her rescuer. McInerney swung under the ladder to the window sill, took Mrs. Chamberlain out, then held her against the under-side of the ladder until another shorter ladder was raised and on which he carried her to the sidewalk.

When fire had possession of the stairs and halls in the five story tenement at No. 813 Amsterdam avenue, early in the morning of February 8th and scores of persons found themselves cut off from escape excepting by front windows or rear fire escapes, the members of Hook and Ladder Co. 22 and Hook & Ladder Co. 25 were the first to reach the scene. Aerial ladders were raised to the upper windows and before the tips of the ladders touched the window sills firemen were on their way up, led by Patrick J. Carroll of Hook & Ladder 25, who entered the fourth floor window of a building in which many people were trapped. The fire, smoke and heat were such as caused him to crawl toward the second bedroom were he found a girl unconscious. He carried her to the window, and other firemen passed her down to the street. Carroll returned, this time to a bedroom further back and found a seven year old boy. Carroll repeated the performance. While Carroll was thus engaged, fireman John J. Blumert of Hook & Ladder 22, observed an eleven-year old girl in another window on the fourth floor. She was screaming and threatening to jump. Blumert called to her to wait, as he ran up a short ladder, carrying with him a scaling ladder with which he built his way from the top of the main ladder to the window where she was. He lifted her out and carried her down, unassisted, to the sidewalk. Carroll will receive the Kenny medal and Blumert the Trevor-Warren medal.

Fireman Ferdinand Z. Riviello of Hook & Ladder Co. 14, will receive the Van Heukelom medal for his rescue of Mrs. Antania Bessosa and her two young children.

Fire endangered the lives of three families in a frame dwelling in the Bronx. Exceptional rescues of two girls from the third floor, by fireman George Friton of Hook & Ladder Co. 32, has won him the Crimmins medal. Friton crawled through smoke, flame and heat to reach her and at great personal risk, succeeded in bringing her to safety. In another bedroom in the rear was her sixteen year old sister. John H. Fox of Hook & Ladder Co. 17 was on another ladder at the time. He swung in pendulum fashion to a ladder at the next window and under conditions similar to the rescues made by Friton he brought the girl to safety. Fox will receive the Brookman Medal.

For rescuing a plumber from a gas filled cellar which was afire, fireman William J. Maas of Engine Co. 2, will receive the Prentice medal.

The medal awarded annually by a committee of Brooklyn citizens will go this year to Capt. Thomas J. Lyons for his rescue of a woman. An explosion of an oil stove had set fire to her house. The stairway and halls were aflame and Capt. Lyons upon his arrival in charge of Hook & Ladder 122, ascended a ladder to the third floor where he found her unconscious and badly burned. As Capt. Lyons was lifting her from the window to a ladder, a back draft stunned him. He fell to the street, but other firemen on the ladder held on to the woman. The captain's injuries incapacitated him for a long time.

The Archer medal, donated by Dr. Herman L. Reis, in honor of Honorary Medical Officer, Harry M. Archer, and awarded triennially to one of three Bennett medal winners, will go to fireman William G. R. Mitchell a member of Engine Co. 18 who won the Bennett prize in 1925. This is the third time the Archer medal has been awarded. Fireman Mitchell, when in the service but a year and a half, and while off duty, dashed into a burning basement and rescued two men whose clothing was afire from the explosion of kerosene oil.

The Stephenson medal for discipline and company efficiency will go to Capt. Walter A. O'Leary of Rescue Co. No. 2, which he organized two years ago and has maintained at a high standard of efficiency.

The Fire College medals for 1926 have been awarded to the officers and members of Hook & Ladder Co. 26, for their performance last year in the Company School where they executed twenty-two evolutions in 17 minutes and 9 seconds. The personnel of the prize winning company is as follows:—Capt. Frederick Lehman, Lieut. George A. Eichler, firemen Dominic J. Cervini, Charles H. Ehmann. Joseph S. Fitzgerald, John E. Galligan, Thomas Hanley, Charles A. Hickey, Christopher L. Kelly, Edward F. Martin, James Murray, Patrick O'Connor, Charles E. Scully and Charles White.

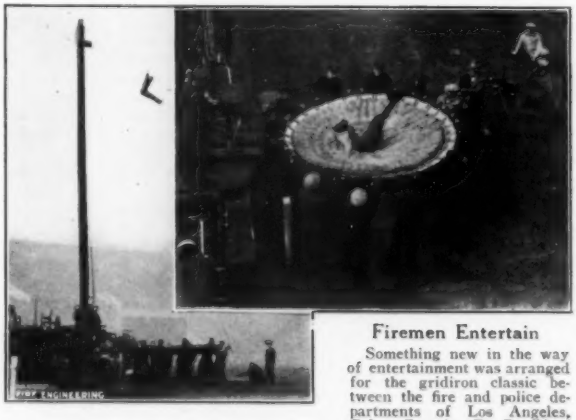
The members of the Board of Merit are: Deputy Commissioner M. Hannon, Deputy Commissioner William F. Thompson, Chief John Kenlon, Assistant Chief Joseph B. Martin, Deputy Chief John Davin, Deputy Chief John F. King, Deputy Chief Thomas R. Langford, Deputy Chief Patrick Maher, Deputy Chief James W. Heffernan and Daniel D. Gallagher, secretary of the board.

Brown, Chief in Binghamton, N. Y.

Elmer J. Brown has been appointed chief of the fire department in Binghamton, N. Y. He fills the post made vacant by the resignation of Chief Alfred H. Lyon.

While many believed that Assistant Chief Hogg would be moved up to the post, it was pointed out that Mr. Hogg would be eligible for a pension in a few months, and to appoint him as head of the department would be placing an obstacle in his way should he desire to retire.

Chief Lyon left on a month's vacation. His resignation as chief becomes effective on May 1.



Firemen Entertain

Something new in the way of entertainment was arranged for the gridiron classic between the fire and police departments of Los Angeles, Cal. Captain F. R. Hendricks who had charge of the fire department stunts said that the event was planned so that the public would have a conception of what the firemen are capable of doing should an emergency arise. At the left is a fireman starting a ninety-five-foot leap, and at the right the fireman is shown landing in the net.

Front Royal, Va., Purchases Siren—A Federal siren has been installed in Front Royal, Va.

N. Dakota Fire Marshal Re-Appointed—E. J. Pepke has been reappointed fire marshal of North Dakota by Governor A. G. Sorlie. The appointment is for a two-year term.

WITH THE EDITOR

Politics Gives City A Bad Record

One of the most striking examples of what sinister political influences can do to develop a bad fire record of a municipality is to be found in the case of Kansas City, Mo. The fire department is headed by a man who is known as an efficient chief and an excellent executive, and yet, so completely have his hands been tied by the political situation existing in his city, that little or no improvement in the fire department has been made in several years past. Over a year ago a bond issue of $1,200,000 was voted by the people for the improvement of the fire department, yet practically very little has been spent in increasing its efficiency or in providing the much needed improvements to its apparatus and equipment.

An evidence of the conditions existing in the fire-fighting facilities of Kansas City is to be found in the abnormally high per capita fire loss of the city. Compared to other large cities with average per capita losses for 1925 ranging from $1.47 to, at the highest, $7.42 and for the past five years of from $1.66 to $6.14, Kansas City has a record of $8.95 for 1925 and $8.04 for the five-year period.

These same influences are to be seen in the promotions and demotions in the fire department. During the latter part of 1926 and the first of 1927 some of the best men in the department have been dropped or have been reduced in rank to make way for others of less favorable records. In fact, it is easily within the recollection of all when a determined effort to oust the chief himself and place a political henchman in his place was only defeated by the determined opposition of the best business elements of the city.

That these interests are keenly alive to the situation in their city is shown in various quarters. Whether they are powerful enough or sufficiently united to bring the political powers to time remains to be seen.

Posthumous Awards

In another column, we tell in this issue, of the first award made by the New York Fire Department of a medal to be presented to the widow of a fireman in recognition of the sacrifice made in the line of duty by her brave husband. We have not been informed as to the identity of the sponsor for this departure, nor does it make much difference who it is — the very thought in itself is inspiring and tender.

Regardless as to who may be the father of the innovation, it remained for the administration of Fire Commissioner John J. Dorman to initiate it in New York at least. The motion picture "The Fire Brigade" shows the presentation of a posthumous award to the mother of a fireman. It was thrilling; it sort of dampened the eyes of the most callous hearted.

It would be well for the fire commissioners and the fire chiefs of the country where it is not now the custom, to make a departure, in a proper case, and like Uncle Sam in time of war, remember the brave dead through the medium of their surviving kin, especially the wives and mothers. It has a touch that gives to the fire department of a cosmopolitan city or a water-tank town, that distinction of public respect and admiration for the fire-fighters out of which can only come a more sympathetic understanding and a better appreciation of the work of our public protectors against fire.

One Way to Insure Harmony

While the relations between the majority of towns and villages and their volunteer fire departments are harmonious, occasionally friction will develop and the members of the department and the authorities find themselves at loggerheads.

A way out of such an impasse has been reached by the authorities of the city of Red Oak, Ia. Following a disagreement between the volunteers and the city council, the department voted to dissolve, presented its radio set to a citizen, sold the furniture and fittings of its meeting hall over the fire station, and divided the money in its treasury pro rata among its members.

Upon such action the council immediately took over the fire department and the mayor reorganized it, within two hours, with a complete set of new officers. It is notable that many of the new volunteer firemen were members of the old organization.

By authorizing the mayor of the city to organize a new department, the city council thus relieved the municipality of any danger consequent upon the lack of fire protection, and quickly relieved what might have proved a bad situation in case of a fire.

Fantastic Ideas in Fire-Fighting

Quite often one reads in the daily press some unique suggestion from a layman as to a new method of extinguishing fires. Perhaps because of the continual contact of the public with fire departments in action and out of action, the fire-fighting profession seems to be more the victim of wild and weird schemes to assist them in their work than almost any other group of skilled professionals.

No doubt such suggesters are sincere in their belief that their ideas constitute a panacea for ills arising from uncontrolled fire — but equally true, in practically all such instances, where the individual is not a trained fire-

fighter, some one important element has been lost sight of, that will render his plans valueless.

This is true of a rather amusing idea contained in a recent letter to a New York daily. The individual making this suggestion finds that we are outgrowing the use of water and the method of fighting fire from the land, and thinks that the airplane will be the new and improved fire apparatus and gas will be the new medium of extinguishment.

His plan is to hereafter handle all fires in high buildings by means of "some sort of gas" which will smother the flames, to be thrown upon the fire from airplanes, the gas to be contained in bags which would be melted by the heat of the flames.

Unfortunately there is one thing that would render such a scheme ineffective. It is the habit of materials on fire attaining extremely high temperatures. The one reason that water is more effective than any other known material in extinguishing ordinary fires is its power to quickly reduce the temperature of the burning objects below the ignition point. The use of certain gases might cut off the oxygen and thus smother the flames, but would not reduce the temperature of the material on fire, and the result would be that the instant the gas had blown away, the remaining heat would reignite the materials and the fire would continue as briskly as ever.

It seems highly probable that the old, reliable water supply will continue to be the fireman's chief reliance in extinguishing fires for many years to come, in spite of optimistic laymen who "discover" substitutes from time to time.

Letting Down the Bars

Fire Prevention and the Safe and Sane Fourth each were the recipient of a black eye in the city of Greenville, Ohio, at the hands of the city council of that municipality. That body took the decidedly backward step recently of repealing an ordinance, passed two years previously, banning the manufacture of, and the sale of, fireworks and fire crackers on the first four days in July.

This action is all the more surprising in that the tendency of the times is toward the elimination of the hazard incidental to permitting such dangerous means of celebration. The unrestricted use of fireworks, especially among the young and inexperienced, is highly productive of personal injuries and property loss, as past records show.

It seems that in this particular instance the city council yielded to a commercial pressure placed upon it in the form of a petition from leading merchants and dealers in the city. This petition made the specious promise that only "safe" fireworks would be sold to the children of the municipality.

Rather than let down the bars in this way, Greenville would do better in tightening the restrictions forbidding the use of fireworks and other dangerous explosives on the Fourth of July, and at the same time see to it that an attractive program of sane civic celebration be prepared to take the place of the noisy exuberance that apparently appeals to a certain type of patriotism.

LOOK OUT FOR THESE!

Word has reached this office that circulars are being handed out in front of theatres where "The Fire Brigade" is being shown, containing coupons which entitle bearer to a fire extinguisher free of charge.

There is one qualification, however, in connection with this offer and that is that the recipient of the extinguisher buy a charge of chemicals for the extinguisher at a price of $2.45 (per quart), or thereabouts. The extinguisher being offered is one of inferior make, and is not of an approved type.

Apparently the object of distributing the circulars at the theatre is to create an impression that there is some connection between the film and its backers and the extinguisher offered.

The International Association of Fire Chiefs has not sanctioned this practice, and the fact that the extinguisher is an inferior one is believed to create a hazard through the false sense of security which its presence in a home or business place might give the purchaser.

In view of this condition, it is urged that the fire chiefs in cities where the film is being shown be on the lookout for "salesmen" of fire extinguishers using this method of selling their products and if possible, take action in co-operation with the local theatre, have the practice stopped.

Naturally, it is not going to leave a very desirable impression on our Association in the minds of a purchaser of a fire extinguisher if the extinguisher, upon use, is found to be impractical or defective.

Bookings of "The Fire Brigade" Increase

Additional bookings of "The Fire Brigade," the motion picture sponsored by the International Association of Fire Chiefs, are being received daily. The following list contains the additional bookings that have been received since the publication of the lists in the previous issues of FIRE ENGINEERING.

Due to the large number of bookings that are being received for "The Fire Brigade," space does not permit a listing of all the theatres that have booked the motion picture. Instead a listing will be made of the first date at which "The Fire Brigade" is to be shown in a municipality.

City	Theatre	Date
Arizona		
Yuma	Casino	June 2–4
Arkansas		
Brinkley	Imperial	May 17–18
Eldorado	Mission	June 6–8
Forrest City	Imperial	May 19–20
Fort Smith	New	May 30–31
Mirianna	Imperial	May 12–13
California		
Calistoga	Playhouse	June 5–6
Colusa	Gem	June 3–4
Escalon	Community	May 27
Gilroy	Strand	June 13–14
Half Moon Bay	Half Moon	May 27
Helmet	Helmet	June 7–8
Madera	National	June 1–2
Marysville	National	June 21–22
Merced Falls	Yosemite	July 10–11
Modesto	Strand	May 23–25
Napa	Hippodrome	May 19–20
Porterville	Monarche	June 7–8
Roseville	Rose	May 23–24
San Anselmo	Tamalpais	June 2–3
San Rafael	Orpheus	May 30–31
Yountville	Veterans Home	Sept. 2
Yuba City	Smith's	July 3–4
Colorado		
Boulder	Curran	May 23–25
Delaware		
Laurel	Waller	July 18–19
Idaho		
Weiser	Star	June 12–14
Indiana		
Huntingburg	Gem	July 3–5
Huntington	Huntington	June 9–11
Greencastle	Voncastle	May 2–4
Mt. Vernon	Vernon	May 29–30
Tell City	Opera House	July 11–13
Iowa		
Atlantic	Atlantic	June 20–22
Avoca	Majestic	July 24–26
Ida Grove	King	June 23–25
Kimballton	Lyric	May 20–22
Villisca	Swan	July 18–20
Kentucky		
Cynthiana	Rohs	May 25–26
Hardburly	Recreation Hall	July 24

(*Continued on page* 449)

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Range of Fire Streams

To the Editor:

In your Questions and Answers Department, issue of March 9, 1927, in answering question No. 2 you allow 1 lb. per foot for the throw of a stream disregarding the size of the nozzle used.

The question states that it is desired to throw the stream across a 50 ft. street—in your answer you ignore the 50 ft. entirely.

Don't you consider that the width of the street has any bearing on the answer?

It is true that the fire department considers 1 lb. per foot for the throw of a stream the proper pressure to be ordered at a nozzle. But the meaning of this rule may be misconstrued as I am of the opinion that what was meant by the rule was the distance the stream was to carry across the street or the distance from the nozzle to the window of the building, in this case 50 ft., assuming that with this pressure 50 lbs., the stream would carry inside the building a sufficient distance to be effective.

This answer 50 lbs. compares favorably with the figures published in the Red Book published by the Board of Fire Underwriters.

Will appreciate an early reply.

Respectfully,
D. C. F.

Answer: The rule referred to in your question applies almost entirely to large size nozzles. Small tips are rarely used where great range is required and hence the rule would not be applied in the case of nozzles, say, for instance, 1¼ inch or less in diameter.

For 1½ inch nozzle, or larger nozzles which are the sizes used for throwing streams across streets the rule holds quite well, namely, that we have one foot range horizontally for each pound nozzle pressure.

For instance if you will refer to the "Red Book" tables you will find for 90 lbs. nozzle pressure a range of 91 feet horizontally with 1½ inch nozzle.

If your rule does not hold for the larger size nozzles it certainly should not be used for the smaller size. In other words you are playing safe by assuming that the range does not take into account the penetration in the building. If on the other hand you assumed that it did take into account the penetration into the building and you were using a 1½ inch nozzle with 90 lbs. pressure you would get an effective reach of 91 feet which would not take into account the penetration.

Hence while the rule does give values a little too large with pressures under 90 lbs., at the same time you will have a margin of safety which you may take into account for any slight breeze which is blowing. You are probably aware that even a light wind will decrease the effective reach of the stream very appreciably.

By using a rule which gives you a range less than the actual range under ideal conditions of the stream you have a little margin to allow for any breaking up of the stream due to winds.

It is the writer's interpretation of the rule that this gives it the actual effective reach of the stream and does not take into account additional reach required for penetration into the building.

Volume of Sphere

To the Editor:

I have a problem to solve and I would like very much to get your solution. I have already worked it out but I do not know whether I am correct or not. My answer to the problem is 15½ gallons. Here's the problem:

What is the volume, or capacity, of a sphere whose diameter is the same as the diameter of the air chamber on a fire pump. The circumference of the air chamber is 60 inches (outside circumference).

Sincerely yours,
H. J.

Answer: Your answer is approximately correct.

But you have not taken into account the thickness of the chamber. Allowing a half inch thickness of metal, you will naturally get a smaller volume.

If the outside circumference is 60 inches, the diameter will be 60÷3.1416 or 19.2 inches approximately.

Assuming the thickness of the metal to be one-half inch, the inside diameter will be 19.2—1 or 18.2 inches.

The volume of any sphere is secured by the following formula:

Volume=.5326 x D x D x D.

Where D is the diameter of the sphere.

Hence the volume=.5236 x 18.2 x 18.2 x 18.2.

=3,160 cubic inches approximately.

One gallon=231 cubic inches.

3,160 cubic inches ÷231=13.6 gallons approximately, as the contents of the sphere.

Inspecting and Flushing Hydrants

To the Editor:

As Chief of the Fire Department I inspect all hydrants every thirty days. The flushing of these hydrants is done by the Water Department, but the practice of flushing has been very lax.

I am asking the city to allow the fire department the task of flushing so that it may be done properly. The superintendent of the water department opposes me in this request, saying that every three months is often enough to inspect and flush hydrants.

Please advise, from your past experiences and records, if my theory is correct or not.

Thanking you in advance for your consideration of this matter, I am

N.H.R.

Answer: It is absolutely essential that the fire department inspect the hydrants if thorough work is desired. Then the fire department is responsible. If there is a delay in getting lines in operation, particularly where a hydrant fails to function properly, the blame is often placed on the fire department rather than on the water works.

As to flushing out the hydrants, it is more satisfactory for the fire department to do this than the water department. It can readily be done when inspections are made.

As far as frequency of flushing is concerned every three months ought to be satisfactory for this purpose—particularly as you have no severe winter weather in your city.

If your street department promptly reports any defective hydrants which they encounter when flushing the streets, inspection four times a year would be frequent enough. On the other hand, if such defects are not promptly reported, or if the street department is lax in their work with hydrants, then monthly inspections would not be too often.

Where Formulas Differ

To the Editor:

I am sending herewith an example which I wish you would correct and fully explain in some future issue of FIRE ENGINEERING. I have worked out standpipe problems that have had no hose included in them quite frequently, but up to date I have not run across both hose layout and standpipe combined. The enclosed problem is for your criticism.

Sincerely yours,
C. N. V.
St. Paul, Minn.

Problem: You have 200 feet of 2½ inch hose from engine to standpipe. Engine pressure is 170 lbs. Fire is on the third floor, on which a 100 foot lead line is stretched using 2½ inch hose and 1⅛ inch nozzle.

Allow 12 feet for each floor and 3 feet for the distance of the 2½ inch hose connection on the standpipe above the floor.

What is the nozzle pressure?

Solution: Back pressure in the 27 foot elevation (two stories and 3 feet additional) is 11.7 lbs.; friction loss in standpipe is taken at 25 lbs.

Subtract both of these figures from the engine pressure be-

fore going further with the problem, leaving 133.3 lbs. engine pressure to overcome friction loss in hose and give nozzle pressure.

Employ Underwriters' formula: N. P. = E. P. ÷ (1.1 + KL).

Engine Pressure = 133.3 lbs.; L is, for the 300 feet of hose, 6; K, for 2½ inch hose and 1⅛ inch nozzle is .167.

N. P. = 133.3 ÷ (1.1 + .167 x 6)

= 133.3 ÷ 2.102 = 63.4 lbs. N.

Now, to check up we will find the friction loss in the hose line by a different method.

Discharge = 29.7 x D x D x √P

Diameter of nozzle is 1⅛ inches or 1.125

The square root of the nozzle pressure, 63.4 lbs. = 7.96 lbs.

Then discharge = 29.7 x 1.125 x 1.125 x 7.96

= 298 gallons per minute.

Friction loss in 100 feet of 2½ inch hose = 2 x Q x Q + Q where Q is the flow in hundreds of gallons per minute.

Q would thus be 2.98 and friction loss per 100 feet = 2 x 2.98 x 2.98 + 2.98 = 20.74 lbs. friction loss.

Friction loss in 300 feet of hose would be 3 times as much or 3 x 20.74 = 62.22 lbs. total friction loss in hose.

Now on this basis, and remembering the nozzle pressure is 63.4 lbs. and the friction loss and back pressure totals 36.7 lbs., we find the new engine pressure equal to the sum of 62.22 + 63.4 + 36.7 or 162.32 lbs.

Now if this second solution is correct, what becomes of the 7.7 lbs. difference between the engine pressure as originally given and the engine pressure as determined by this solution?

In other words there is an actual difference of 7.68, or approximately 7.7 lbs.

Editor's Comment: Your solution is correct except that the height of the hose connection on the standpipe above the floor is not usually taken into account. The height of the discharge outlet on the pump is approximately equal to the height of the standpipe connection above the floor so that these two figures cancel themselves.

However, the error you have made by allowing the 3 feet height of standpipe outlet may be disregarded.

Otherwise your solution is satisfactory.

Now as to the 7.7 lbs. which you cannot account for: You will appreciate that all formulas used in fire department hydraulics are empirical, that is, they are experimental formulas designed to give results which have been secured by actual tests.

None of these formulas are mathematically accurate and under certain conditions give results which are not entirely correct.

The differences you secure in the engine pressure as determined by the solution and that given in the problem, can only be accounted for by the fact the formulas do not give precise results. This figure 7.7 shows how much the formula differs in its result from correct values.

This deviation is not serious when it is remembered that for the same flow two lines of hose, one with the lining in poor condition and the other in perfect condition will give as much as fifty percent difference in friction loss.

Dimensions of Standard Thread

To the Editor:

Would you please advise what is the standard thread for the usual 2½-inch hose (number of threads to an inch). We find that our neighboring boroughs use 2½-inch hose but it is necessary to carry adapters in order for us to connect with their hose. Will you please advise us what the fire department standard is?

Is it more efficient to connect a pumper to the hydrant using two 2½-inch openings, siamese from the two openings into the 4½-inch hard pumper suction, or would it be better to use one opening and connect from that to the hard 4½-inch suction. Which one of the plans would give us more water and a better efficiency?

Yours truly,
F. P. S.
Stroudsburg, Pa.

Answer: The reason that you can not connect with the hose or hydrants of the neighboring towns is that their fittings are cut with a different size thread although the diameter of the hose is the same. For a number of years, various agencies have been advocating the adoption of what is known as the National standard in order to do away with the necessity of using adapters. Once all of the threads are cut from the same sized die, the hose from the various towns will be interchangeable. Some states have passed laws adopting this thread as standard. The dimensions are as follows:

Nominal inside diameter of thread	2½-inch
Pitch, or number of threads per inch	7½
Mean Maximum outside nipple diameter (external thread)	3 1/16
Average difference in diameter between mating threads	.03
Total length of threaded nipple	1
Outer rim of nipple turned blank to inner base of end (Higbee cut) of thread	¼
Total depth of threaded coupling (outer face to back of washer recess)	1
Outer rim of coupling (internal) threads countersunk to inner base of end (Higbee cut) of thread	¼

If you get in touch with the rating organization that has charge of establishing the fire insurance rates for your town, they will be glad to tell you how you can obtain the loan of a set of tools to rechase your threads so that they will conform with the National standard. This can be done at little cost.

If the hydrant is connected to a small sized main, there will be little use to connect the hydrant so as to increase the flow a few gallons more. In order to obtain the proper flow from the hydrant, a suction will be created on the main, and the soft 2½-inch rubber lined hose will collapse and stop the flow of the water.

There is some gain in using the two 2½-inch outlets, siamesing the lines and then connecting it to the hard pumper suction. By doing this, the flow is divided in two equal streams for a short distance and the friction loss is reduced.

Pressure in Hose

To the Editor:

Pressure is figured from a base of 1 sq. in.

Two and a half inch hose has about 6 times more square inches exposed to pressure than 1-inch hose and will resist 4 times the pressure before bursting; give your explanation.

G. B.
Cincinnati, Ohio.

Answer: The area of the interior surface of a cylinder (such as hose) is found by multiplying the diameter by 3.1416 and multiplying the product so found by the length of the cylinder. All measurements must be in the same units, for instance, inches, etc.

Comparing a section of 2½-inch hose 1 inch long to section of 1-inch hose also 1 inch long, we get the following:

Interior area of the 2½ inch hose = 2½ x 3.1416 x 1 = 7.854 sq. in.

Area of interior surface of a section of 1 inch hose 1 inch long will be 1 x 3.1416 x 1 or 3.1416 square inches.

From the above it will be seen that 2½ inch hose has not 6 times more square inches exposed to pressure than 1 inch hose, but instead, only 2½ times as much.

The only way the second part of the question regarding the bursting pressure of two hose lines of different diameter can be interpreted is on a basis of bursting pressure per square inch. The first part of the question states that the pressure is figured from a base of 1 sq. inch, which infers, so many pounds per sq. in.

The second part of the problem states that the 2½ inch hose will resist 4 times the pressure that 1 inch hose will stand before bursting. As pressure applied to a fluid confined is transmitted in all directions, the only way the greater bursting pressure of 2½ in. hose could be accounted for is by the greater strength of the hose itself.

No two different brands or sizes of hose have exactly the same bursting pressure, the bursting pressure depending upon the construction of the hose.

Hence if one line of hose or one size of hose has 4 times the bursting pressure of the other, it is another way of saying that this particular hose with the greater bursting pressure is built just so much stronger than the other.

Were the two hose lines made of exactly the same material, the same size of threads (or cords), the same density of weave, the same thickness and strength of rubber, then the 2½ inch hose would burst first. This is due to the fact that the total pressure on the inside of the 2½ inch hose would be 2½ times greater than that on the 1 inch hose with a result that this greater total pressure would exert along the line of rupture just 2½ times as much tension as in the case of the 1 inch hose.

Boston Fireboats Equipped with Williams Tip—The three fire boats of Boston, Mass., have been equipped with the Williams tip, a nozzle invented by Captain John W. Williams of the local department. The nozzle is designed to fight cotton fires as the nozzle can be pushed in between the bales.

Portland to be Host to State Chiefs—Portland, Ore., will be the hosts to the members of the Oregon State Association of Fire Chiefs at the annual meeting to be held in August. Salem was decided at first for the convention city, but the place was changed to Portland because of the chiefs who will gather there for the international meet.

Dynamite Corps in Fire-Fighting

(*Continued from page* 428)

(3) Why should explosive charge be spread along foundation or walls, rather than concentrated in one place?

Answer: The charge scattered or spread along foundations or walls gives a concentrated action or breaking power along entire structure, whereas a concentrated charge merely attacks a small portion and would, no doubt, result in simply blowing a hole through that particular point where charge was located. This was proven by our work at different times in the field practice.

(4) Can a definite amount of explosives be determined for demolition of a building, and if so, how?

Answer: Yes, by figuring the approximate cubic yardage of concrete, brick or other material of which building is constructed.

(5) How can the cubic yardage contents be found?

Answer: Take each wall separately. Mutliply length in feet by thickness by height and divide this sum by 27, which will give the approximate yardage.

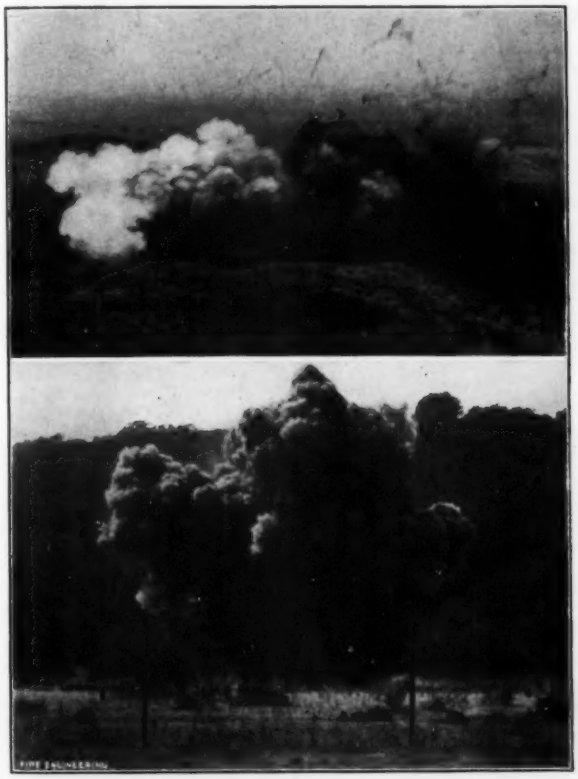


Fig. 6. (Upper) Dynamite Explosion in Opening Up of a New Fire Break in the Mountains Near Los Angeles, Showing Two Charges of Dynamite Going Off in the Brush. Fig. 7. (Lower) Drill of Men in Blowing Up and Loosening Ground for Ditches and Dykes to Be Used in Case of Oil Fires

(6) How many pounds of explosives are required to destroy a cubic yard of concrete?

Answer: From 4 to 7 pounds per cubic yard, according to structure, reinforcements, etc.

(7) Does the above rule apply to brick buildings?

Answer: Yes, except the amount of explosives. From 2 to 4 pounds per cubic yard will destroy brick structure.

(8) How should an explosive charge be placed to cut pillars, columns, etc?

Answer: The best way is the chain method. That is, tying cartridges end to end around column. (See cut No. 2.) This also applies to cutting off piling under wharves, etc.

(9) How can a charge of dynamite be determined for cutting pillars or columns?

Answer: Figure one stick of powder to each inch diameter of column.

(10) What is the best method of detonating a charge in demolition work?

Answer: Either by electric blasting caps or cordeau fuse.

(11) If electric blasting caps are used, should a galvanometer test be made on caps before being placed in charge?

Answer: Yes, and after all connections are made, test should be made from end of lead wire extending to battery, to make sure of complete current.

(12) In case galvanometer fails to show circuit, or shot fails to go, what should be done?

Answer: Be sure lead wires are detached from blasting machine, then trace out lead wire for possible break. If lead wire proves to be O. K., then test out each cap in circuit until faulty cap is found; replace this cap, make all connection and test out line again with galvanometer and fire shot.

(13) In ditch digging, what depth should holes be drilled and how spaced?

Answer: Holes should be drilled to depth required of ditch and should be spaced as far apart as depth drilled.

(14) What quantity of explosive should be loaded into holes for ditching?

Answer: To make ditch quickly and insure thorough removing of dirt, one and one-half pounds of explosive per foot of hole should be loaded.

(15) Can a ditch be blown without boring holes?

Answer: Ditching, up to five or six feet in depth and four feet in width, can be made by laying cordeau fuse along center line of ditch and laying sticks of dynamite end to end for this work.

Questions and answers prepared by A. E. Deegan, Technical Representative, Giant Powder Company, Cons., November 5, 1926.

Capt. Wolfer of Salvage Corps, Dead

Captain Chris Wolfer, superintendent of the Salvage Corps in Urbana, Ohio, died from the effect of inhaling hydrofluoric or sulphuric acid fumes at a fire in a chemical laboratory. Four other members of the corps were affected, but they were able to return to work.

Other members of the service who worked with Wolfer stated the direct cause of his death was that he returned to the building to open windows to save others from inhaling the dangerous fumes.

Mr. Wolfer is survived by a wife and two sisters.

Fire Buff Has Many Honors

Interest in fire prevention problems has become a most enthusiastic hobby of F. W. Knoeppel of Jacksonville, Fla. In 1901 he lived in Oswego, N. Y., and at that time had the largest collection of fire relics, such as helmets, badges and souvenirs in New York state.

He has the degree of honorary fire chief in the fire departments of Macon, Ga., Jacksonville, Fla., Daytona Beach, Fla., West Palm Beach, Fla., St. Petersburg, Orlando, Miami and Miami Beach, Fla. Mr. Knoeppel is an associate member of the International Association of Fire Chiefs and the State Firemen's Association of Florida. He is a regular visitor at these conventions.

F. W. Knoeppel, Jacksonville, Fla.

Norristown Insures Firemen

Fifty firemen from each of the fire companies in Norristown, Pa., are covered by compensation insurance.

Including the Volunteer firemen in the compensation insurance required by the state is in accordance with an amendment made by the legislature that requires all borough employees to be protected by insurance.

In addition, the Firemen's Union carries accident and death insurance on a certain number of the members. The Union will reimburse the borough for the cost of the insurance protection.

Pumper Ordered for Huntsville, Ala.—A piston type pump was purchased by Huntsville, Ala., for $13,000.

Newton, Ia., Department 53 Years Old—The Newton, Ia., fire department celebrated their fifty-third anniversary.

Cudahy, Wis., to Have Fire Alarm System—A fire alarm system will be installed in Cudahy, Wis.

Rutherford, N. J., Considers Apparatus Purchase—Rutherford, N. J., is considering the purchase of apparatus and equipment for the fire department.

NEWLY DEVELOPED FOAM SYSTEM STANDS UP UNDER SEVERE TEST

Two Powders Used—Fed at Same Time—Details of Test

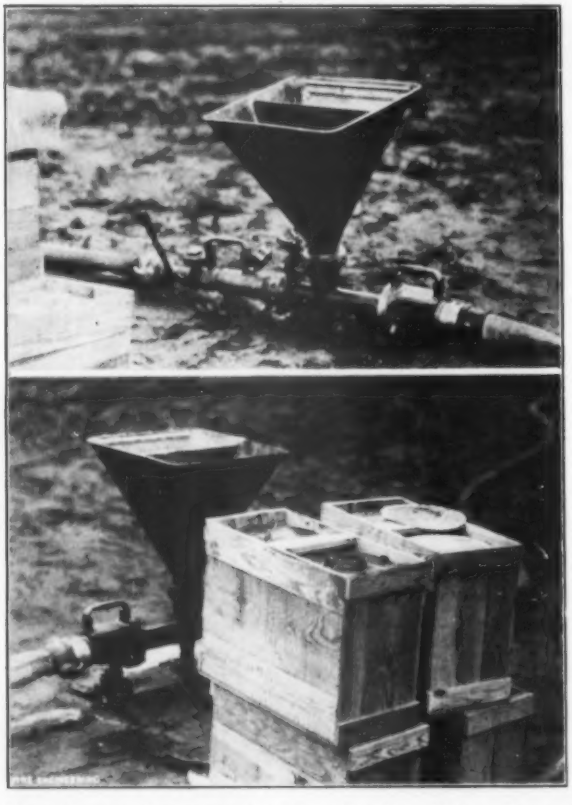
A NEW system of foam fire extinguishing apparatus based on practices different from those commonly employed in foam fire extinguishers was tested out on April 22nd at Paulsboro, N. J., by the American Fomon Company, of Drexel Building, Philadelphia.

Essentially the system consists of the use of two dry powders, each in itself stable, and a supply of water, either fresh or salt.

The generation of foam is produced by bringing together the two chemical powders with a sufficient supply of water.

This principle of operation is employed both in chemical extinguishers and foam generator, the latter used in connection with fire hose lines under pressure.

Figs. 1 and 2 show the generator employed in the test described later on. In Fig. 1 the supply of water is fed by the hose at the left hand side of the generator, the mixing taking



Top: Fig. 1. Generator, Showing Dividing Web. Bottom: Fig. 2. Duplex Powder Containers

place in the chamber beneath the handle on the right hand side of the generator.

The hopper is divided into two sections by a web. The two powders are dumped into the two sides of the hopper respectively. Fig. 2 shows another view of the generator with some of the foam powder cans in the foreground.

These cans are mounted in twos in crates. Each of the two cans contains one of the powders required in the operation of the generator.

The cans are capped with thin metal covers, crimped in. To open a can a handle is provided on the cover, and a comparatively moderate tug removes the lid.

When the powders are dumped into the generator the crate is so placed that the discharge from each can will be in the proper side of the generator, and with the tilting of the crate the powder flows at any rate desired.

The powder is of sufficient coarseness to flow freely, requiring no ramming or poking in the generator to get it to the injector.

Water is fed under pressure of around 50 pounds to the generator and the mixing is done automatically.

Levers are provided to proportion the powders and water so that any grade of foam may be secured. The foam commonly employed with this type of generator is of an easy flowing consistency, but where a thick foam is needed for coating a surface

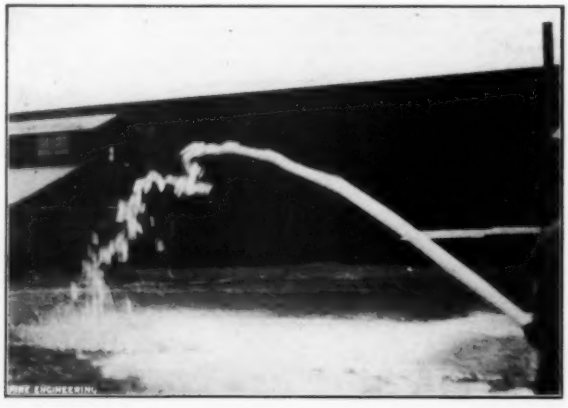


Fig. 7. Demonstrating Production of Thick Foam

of a building or other objects, a heavier, more tenacious foam may be readily made.

Fig. 7 shows rather interesting results secured by increasing the thickness of the foam. In this case the stream, as will be seen, has broken up into large globules of foam which, when falling to the ground mount up in a pile of considerable height.

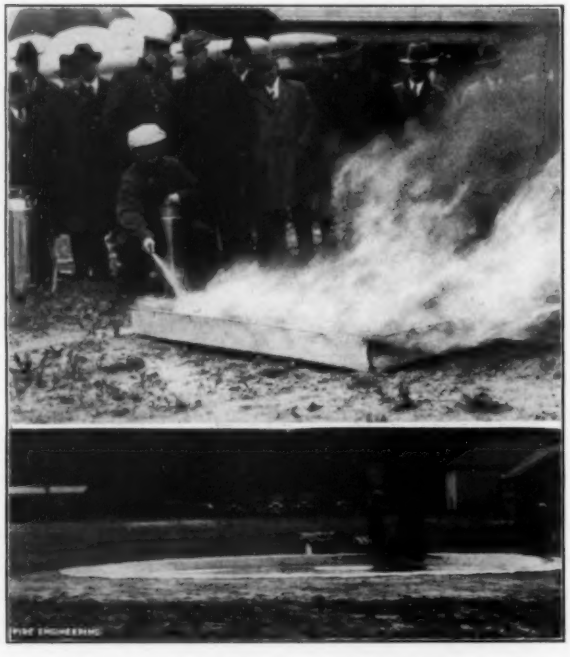
The hand extinguishers are built with two compartments in the top, one to hold either powder. Water is employed in the barrel of the extinguisher.

Upon inverting the two powders come in contact with the water and the generation of foam is the result.

The Test

The first test was with a small hand extinguisher and two ordinary metal tubs filled with water, and having a layer of oil over the top. Fire was started in both tubs at the same time

(*Continued on page* 446)



Top: Fig. 3. Test of Hand Extinguisher on Oil Tray. Bottom: Fig. 4. Filling 30-Foot Tank With Oil

FALLING WALL ADDS TO RISK OF PITTSBURGH 3-ALARM FIRE

Heavy Baking Machinery in Ice Cream Cone Factory Crashes Through Weakened Floors—Blocked Streets and Dead-End Mains Hamper Firemen

By William E. Patterson

Six firemen, including Chief Richard L. Smith, narrowly escaped death or injury from a falling wall when approximately two score of frame dwelling houses were threatened with destruction on March 11th in a fire which completely destroyed the factory of the Star Wafer Company, manufacturers of ice cream cones and wafers, in a thickly settled residential district of Pittsburgh, Pa.

Four and six-inch water mains with low water pressure, some of the mains terminating at dead ends, dead end streets in the vicinity of the burning building terminating at the edge of a deep hollow in which runs the main line of the Pennsylvania Railroad, permitted the department only one way to reach the fire. Hundreds of automobiles lined the Bloomfield bridge, congested the narrow streets leading to the burning building from the bridge entrance and greatly hampered the firemen.

The fire, flaming up through the building and out through the roof like a huge torch, was visible for miles around. Thousands of persons filled the Bloomfield baseball park and thronged the Bloomfield bridge until long after midnight.

The fire which apparently started on the second floor from some unknown cause, had extended throughout the entire second floor and was rapidly spreading to other parts of the building when the first company arrived.

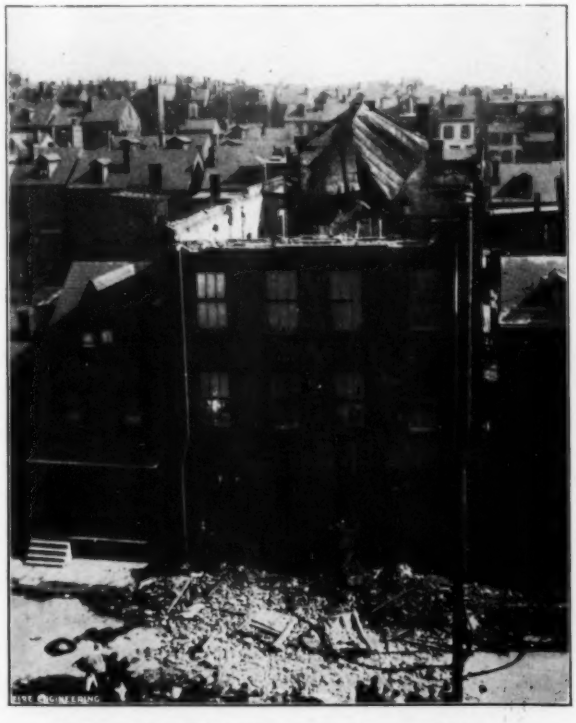
The second alarm at 11:02 p. m. brought Companies No. 25 and 28, Deputy Chief Frank G. Jones and Richard Lee Smith, chief of department.

The third alarm at 11:15 p. m. was answered by Engine Companies No. 7 and 26 in command of Battalion Chief John H. Frazier of the Fourth Battalion.

Nine pieces of fire apparatus, motor driven or tractor drawn, of the following makes were in service:

One 1000-gallon American-LaFrance, pumper, five American-LaFrance, 750-gallon pumpers, one American-LaFrance, hose and chemical wagon with turrett nozzle, one 85-foot American-LaFrance tractor drawn aerial truck and one 75-foot Seagrave aerial truck, tractor-drawn.

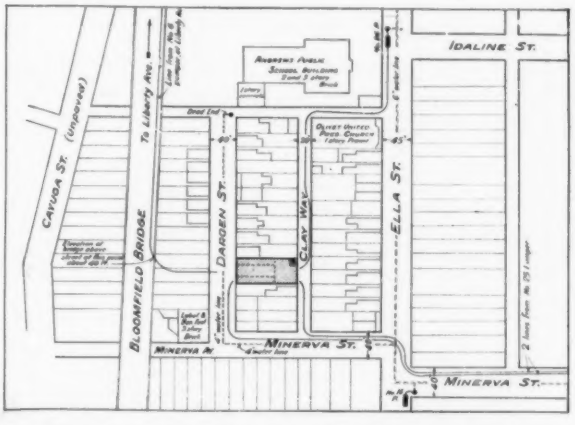
Eight pumper and one hydrant stream were used at the fire. Five hundred feet of three-inch hose, and six thousand feet of 2½-inch hose were used.



Ruins of Star Wafer Company Plant in Pittsburgh

A force of sixty-six uniformed firemen were on duty at the fire.

The burned building was a four story brick structure, fronting about thirty feet on Dargen Street and extending back a distance of seventy feet to Clay Way, the fourth floor being practically a large skylight about two-thirds, the width of the building, and extended the full length of the building. The front and rear ends of the skylight were of solid brick construction. During the fire the front end or wall of this skylight, fell suddenly. Bricks and other wreckage fell clean across Dargen



Diagram, By W. E. Patterson, of Placing of Apparatus at Pittsburgh Fire

Street narrowly missing several firemen. The building had wooden floors with sections of concrete construction, which were carried on wooden joists, supported by heavy concrete columns and I beams in the center of the building. The concrete sections of the floors were constructed to support bake ovens used in the making of ice cream cones and wafers. The floors loaded with heavy machinery and a large stock of cardboard crashed through to the basement.

Wired glass windows with which the building was equipped throughout, although a hindrance to the firemen in getting water through the windows, were the means of keeping the fire entirely within the building. Flames soared up through the center of the building and out through the roof.

The loss on the building was estimated at $40,000; the machinery and stock at $75,000.

Six Ludlow four and one-half-inch single and double opening fire hydrants were available for fire department use with pressures ranging from fifteen to sixty pounds.

Two firemen were slightly injured during the fire, but continued on duty.

The fire burned for fourteen hours and forty-three minutes.

Rats and the Fire Department

There has for a long time raged a controversy as to the question of rats starting fires by the gnawing of matches. Whichever way this may be settled, if it ever can be, the fact remains that the troublesome rodent can give the fire department anxiety in other directions, as the following incident, which happened some months ago seems to prove:

After a great deal of trouble-hunting in Kansas City, Kansas, it was discovered that sewer rats were responsible for putting a large part of the fire alarm system out of service. It was then observed that rats had used the empty cable conduits for years as subway passages, or perhaps it was their Champs Elysses or promenade for the social elect.

When their passage became obstructed by the new fire alarm cable, they gnawed through two sections of the cable and shorted several circuits. About five hundred feet of cable had to be pulled out of the conduits, spliced and repaired. In order to avoid any further trouble, the openings will be filled with cement to confine the activities of the rats to some point other than the fire alarm conduit.

Mr. Buchholz, president of the board, asked, "I wonder why the rats were so anxious to get past the cable?"

Mr. Haldeman, superintendent of the fire alarm system, explained with an amusing twinkle in his eye, "Those at Thirteenth and Central probably wanted to attend the opening of the Hotel President, as the duct leads to the new building, and

those at Ninth and Locust probably attend night school at the public library."

In any event, it is hoped that the concrete will discourage the fire alarm cable diet of the sewer rats.

TWO KILLED, 29 INJURED BY $3,000,000 DETROIT PLANT FIRE

Explosion in Plant that Finished Automobile Bodies Believed Due to Pyroxolin Paints—Floor Collapsed With Workmen

TWO are dead and twenty-nine or more of the workmen of the Briggs Manufacturing Company in Detroit are badly injured from an explosion which wrecked the plant and spread a fire with the resulting loss of $3,000,000. Those injured or killed are employes who went down when the floors of the plant collapsed.

The actual cause of the fire is unknown. It is believed, however, that a broken incandescent light exploded some vapors in a room where automobile bodies were finished with paints having a pyroxolin base. The fire spread from the fourth floor of the paint room to the six spraying booths, and a series of explosions followed.

More than 2,000 employees were in the building when the fire started. The majority of them had time to file out in an orderly manner. Many of the workmen on the fourth floor were caught when the floor collapsed.

The paint shop building was erected in 1923, and a large amount of work was done there for the Dodge, Packard and

Many Were Trapped in the Fire Which Destroyed the Briggs Manufacturing Company Plant in Detroit

Chrysler motor cars, and some work of lesser amount was done for the Paige-Detroit Company. The destruction of this plant will not affect the production of these automobiles.

Firemen were hampered in their work by a high wind. They fought the fire from the top of box cars nearby. The time clock and the records were destroyed and the firemen had no clue as to the number that were in the building at the time nor had they any means of telling how many were caught when the walls collapsed.

A recently opened emergency wing in a local hospital was taxed to its limit, and many who were removed there were treated in the private offices. Senior medical students were pressed into service to treat the minor cases, and extra nurses were rushed to assist in the first aid work. More than a dozen doctors were rushed to help in the dressing of the severe burns. Newspaper men observed a peculiar characteristic of the patients as they were laid out in the street awaiting treatment. The skin of the negroes who were severely burned had turned white and vice versa.

As soon as possible the firemen had arranged rescue parties to search the warm ruins for the bodies of the victims.

The fire was the biggest and one of the most intense in history of the fire department during the past twenty-five years.

Glasgow, Mont., Purchases Siren—An electrically operated siren will be installed in Glasgow, Mont.

Call Bells Installed in Homes of Ceron, Ia., Men—Call bells have been installed in the homes of the call firemen in Ceron, Ia.; these bells are controlled by a switch in the telephone exchange. The call bell will only be used at night.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending April 22

SHELBYVILLE, MO.—Business establishments damaged	50
RENFREW, ONT., CANADA.—Rink in Argyle St. Arena	35
HICKMAN, KY.—Brick business bldg. destroyed	40
KAUKAUNA, WISC.—Moloch Machine & Foundry Co.	40
CHICAGO, ILL.—Property of Chicago Civic Opera Co.	230
IRON MOUNTAIN, MICH.—Business district damaged	40
MACATAWA PARK, MICH.—50 Summer residences destroyed	250
NUTLEY, N. J.—H. G. Schaaf bldg. and adj. property	50
NORTH BERGEN, N. J.—Henry Koenig's Park Inn damaged	65
PROVIDENCE, R. I.—Traveler and Walkover Shoe Stores	180
WELCH, W. VA.—Peerless Steam Laundry Co. damaged	65
STAMFORD, CONN.—Apartment and adj. property damaged	65
CHURCHVILLE, N. Y.—Residence of Bert Adams, 3-mi. south	30
LAKE WALES, FLA.—Plant of Florida Public Service Co.	200
NEW BERN, N. C.—Kafer Bldg. damaged	25
TAUNTON, MASS.—Shed of Staples Coal Co. damaged	65
CAMDEN, N. J.—Seven passenger cars of Penna. R. R.	100
MARION, ILL.—First Christian Church destroyed	125
PEBLES, OHIO.—Electric light plant destroyed	25
CHICAGO, ILL.—Plant of Granett & Rothchild	400
SHENANDOAH, PA.—Mandour Hotel damaged	60
McDONALDTON, PA.—McDonaldton Hotel destroyed	25
LEWISTOWN, PA.—Several stores damaged	25
ANTIGO, WISC.—Mill of Faust Lumber Co. destroyed	80
VESTAL, N. Y.—Business establishments destroyed	40
BUFFALO, N. Y.—Bldgs. at Broadway & Sweet Avenue	35
ELIZABETH, N. J.—Dwelling of Mrs. E. Dimock destroyed	65
PITTSBURGH, PA.—Bdg. occupied by Harris Pump Co. & others	80
CROWN, PA.—Roman Catholic Church destroyed	35
LANCASTER, O.—Plant of U. S. Gypsum Co. damaged	40
AURORA, ILL.—Mary Todd grade school practically destroyed	200
GRANDVIEW, WASH.—Three warehouses destroyed	65
WATSONVILLE, CALIF.—First Christian Church destroyed	80
McKEESPORT, PA.—Samuel Grossman residence damaged	25
DETROIT, MICH.—Bldg. occupied by McCord Radiator Co.	125
PHOENIX, ARIZ.—Garages and adjacent property damaged	30
STAMFORD, CONN.—Several bldgs. in Washington St.	50
SCRANTON, PA.—Plant of Scranton Forging Co.	80
HOPE VALLEY, R. I.—Forest fires in several sections of state	45
ADRIAN, MICH.—E. C. Fisher book store	25
FOND DU LAC, WISC.—Warehouse of H. L. Sweet Co.	25
SAN FRANCISCO, CALIF.—Basket factory of Anglo & Sons	35
ST. LOUIS, MO.—N. Jost Cork Company bldg. damaged	25
RIVERHEAD, N. Y.—Suffolk County Court House destroyed	80
WEST NEW YORK, N. J.—Plant of Wm. Spiess damaged	25
JOHNSTON, S. C.—Peoples' Cotton Oil Company's plant	30
AMBRIDGE, PA.—Bldg. at 8th & Merchant Sts.	40
ALMONT, MICH.—Almont High School bldg. destroyed	80
LEBANON, PA.—Hotel Weimar damaged	40
TRENT, TEX.—Business establishments damaged	50
WHITE RIVER JUNCTION, VT.—Cross & Abbott warehouse	80
OSHKOSH, WISC.—Business establishments damaged	90
KEOKUK, IA.—Elevator of O. A. Talbott Co.	80
LIME SPRINGS, IA.—Business establishments destroyed	80
ORANGEBURG, S. C.—Louis Building destroyed	70
MARBLE FALLS, TEX.—Entire business block destroyed	200
CAMDEN, N. J.—Property of C. D. Heavy Co. damaged	30
PITTSBURGH, PA.—B. & O. R. R. Shops and adj. property	80
RIVERTON PARK, ME.—Dance Hall and adjacent buildings	35
TENAFLY, N. J.—Bldgs. at Camp Merrill of Harris Bros. Co.	40
TARRYTOWN, N. Y.—Home of Burelle Hoyt destroyed	25
SAVANNAH, GA.—Temple Mickveils Israel Synagogue	40
PEABODY, MASS.—Bakery and First National Stores	65
NORFOLK, VA.—Berkley Machine Wks. and adj. property	25
MERIDIAN, MISS.—Laurel Packing Co.'s ice plant	80

Week Ending April 29

WEBSTER, MASS.—Main Street business block	50
SPOKANE, WASH.—Northwest Chemical & School Supply Co.	50
BUENA VISTA, VA.—Columbia Paper Co. plant	40
CHICAGO, ILL.—Plant of Robt. M. Lucas Co. damaged	65
ORANGEBURG, S. C.—Louis Building destroyed	75
CLARKS GROVE, MINN.—Clarks Grove Creamery	40
CANTON, N. Y.—Two business blocks damaged	30
HOUSTON, TEX.—Consolidated Oil Co. depot	25
CHICAGO, ILL.—Kromer's army store, damaged	800
WOODSIDE, PA.—Barn on farm of J. Heacock & Co.	75
AUGUSTA, ME.—Mill No. 2 of Cushnoc Paper Co. destroyed	65
FORDSON, MICH.—Machine shop, Coolsaet Bros.	25
DETROIT, MICH.—Bldg. of Briggs Mfg. Co. destroyed	2500
MOBILE, ALA.—Harrison Bros. shipways, damaged	80
UNCASVILLE, CONN.—Methodist Church destroyed	40
GRAYSVILLE, IND.—School destroyed	70
DES MOINES, IA.—Grain elevator, A. B. Fogarty Co.	40
JOLIET, ILL.—Bldg. of Star-Peerless Wall Paper Co.	250
PARCO, WYO.—Property of Producers' & Refiners' Corp.	400
WHITNEYVILLE, CONN.—Garage of Brock Hall Dairy Co.	35
COLVILLE, WASH.—E. J. Harper sawmill destroyed	30
GREENVILLE, S. C.— Y. M. C. A. bldg. at Monaghan mill	35
LOS ANGELES, CAL.—Steamship Sagadahoc of Argonaut Line	80
WEST NEW YORK, N. J.—Bldg. of Universal Feed & Milling Co.	400
GREENVILLE, S. C.—Columbus St. steamship terminal	250
CLEVELAND, O.—Dwelling of Michael Gipper destroyed	35
LOUISVILLE, KY.—Bldg. occupied by Louisville Clothing Co.	25
BAY VILLAGE, O.—Dwelling of M. Gipper destroyed	35
CHARLESTON, S. C.—6 bldgs. at Meeting & Market Sts.	170
BRIDGENORTH, ONT.—Property of A. B. Mann destroyed	25
EAST PINE BLUFF, ARK.—Five residences destroyed	30

SANTA CRUZ, COL.—Twin Lakes Hotel destroyed..... 25
AMHERST, MASS.—Chase block destroyed..... 35
SAVANNAH, GA.—Craft Color Studio main bldg..... 80
ATLANTA, GA.—Warehouse, H. S. Prater Co..... 25
NEW BRIGHTON, PA.—First Presbyterian Church destroyed. 80
DES MOINES, IA.—Paul Alley's garage, at Johnston Station.. 40
ANSONIA, CONN.—Peterson-Hendee Co. warehouse..... 45
CLEVELAND, O.—Apt. owned by Augusta Realty Co..... 60
BEAVER FALLS, PA.—Zimmerman block damaged..... 40
AMBLER, PA.—Stables of J. J. Nesbitt, Welsh Road..... 60
WEST CHESTER, PA.—Plant, E. H. Jacob Mushroom Co., Greenhill 175

Middleboro has Up-to-Date Central Station

The handsome Central Fire Station in Middleboro, Mass., is a brick structure situated on North Main Street with an apparatus floor that is fifty by seventy feet in area and has three double doors. The central portion is two stories high and there are two one-story wings.

The apparatus room has cement flooring, tiled walls, and a

Central Fire Station at Middleboro, Mass.

metal ceiling. On the east of the main floor is a room that can be used for additional apparatus, but at present will be utilized to house the forest fire fighting equipment. In the rear is a space for storage of chemical charges and for the cleaning and recharging of extinguishers. The room on the west side contains the patrol desk, tapper and gong, recording tape, and telephone. In the rear of this room and through a hallway is the fire alarm office with the latest type of automatic equipment manufactured by the Gamewell Company. Deputy Chief George A. Philbrook, superintendent of fire alarm telegraph for the Middleboro department, personally supervised the installation of the system. Ten circuits are provided in the new fire alarm system and the registering machines are connected with an electric clock which stamps on the tape the time, day, and date of the receipt of each alarm. The battery room is adjacent to the office. The equipment includes a 10-circuit storage battery switchboard mounted on pipe frames; a 10-circuit protector board, Excelsior punch register, 15-inch gong and indicator, compressed air whistle, motor generator, and battery rack with one hundred cells. The office is laid out and wired for an 8-circuit automatic repeater to be installed later. There are forty fire alarm boxes connected with the system and the sounding of the alarms is automatic with the pulling of the hook.

The second floor, access to which is by a metal stairway with cement steps, contains the living quarters for the firemen. The accommodations include an attractive reception hall and library, private room and office for the chief of department, room for meetings of the board of engineers, assembly hall, game room, and ten bedrooms for the permanent men of the force. Kitchen, lockers, lavatories, shower baths, and linen closet are provided. The floor covering is battleship linoleum and brass sliding poles are conveniently located. There is also a pole for the use of the chief. Roof construction is of the cement slab type. A clothes drying room adjoins the bath room, the latter being fitted with two tubs in addition to showers.

The walls of the second floor are tastefully finished in hard plaster, each room in a different color tone. Cement trim is used on the exterior of the building and the centre is surmounted by a flagpole. As the building is set back from the street there is a wide concrete ramp leading up to the front doors.

Need for a new central fire station had been long felt in Middleboro and Chief Carlton W. Maxim took the lead in agitation for the present structure which was authorized at the last town meeting. The money was mainly furnished by the trustees of a fund left for town improvements. The building committee was composed of Ernest L. Maxim, chairman, (son of Chief Maxim); Chester E. Weston, Granville E. Tillson, Alton G. Pratt, Albert F. Soule, Chief C. W. Maxim, Harry J. Goodale, town manager; and Wilson G. Harlowe, architect.

The new central station replaced the old School Street firehouse which was built in 1856. The fire district of Middleboro was incorporated in 1852 and in the same year Bay State Engine Company No. 1 was organized. Three years later Enterprise Hook and Ladder Company was formed. In 1882 Chemical Engine Company No. 1 was established as successor to the Bay State Company. In 1915 the membership of the Enterprise Company was transferred to Ladder Company No. 1 of the modernized department. Young Mechanic Engine Company No. 1, organized in 1876, became Hose Company No. 6 in 1886 and in 1914 became Hose Company No. 2. Between 1886 and 1889 four other hose companies were organized. The first piece of motor apparatus was a Knox combination purchased in 1912. Additional units of motor equipment were installed in 1914, 1915, and 1920. The town water system was installed in 1886 and the Gamewell fire alarm telegraph was adopted in 1889.

Chief Maxim began his fire service as a private with Hose Company No. 4 in the westside district of the town. During the 15 years since he has has been chief he has brought the department to a state of efficiency that is the envy of other municipalities. He is a popular official and a well known member of both the Fire Chiefs' Club of Massachusetts and the New England Association of Fire Chiefs.

The department is completely motorized and the apparatus now in service is of the Maxim type built by the Maxim Motor Company, of Middleboro. On the night of the dedication of the new station music and speeches added to the gayety of the occasion and attractively printed souvenir leaflets were distributed.

HARRY BELKNAP.

Welcome to New York

Chief S. J. Flores of Shreveport, La.; Dick Joiner, of P. O. Hebert's staff at Dallas, Tex., and Big Chief Bill Brosnan of Albany, Ga., (right, reading down from top) were in New York last week on a brief visit. Believing in preparing for the future they came up, so they say, to make a study of skyscraper fire hazards, particularly to see how New York handled the recent 35-story fire. Of course a stay in New York can't be complete without a visit to the offices of FIRE ENGINEERING, at which the group pictures at the left were taken. In the centre is Joe Green of Eureka Fire Hose fame, who showed the party around the city.

McGregor, Ia., to Purchase Apparatus—By a large majority, the people of McGregor, Ia., voted to purchase fire apparatus. J. Quigley has been elected chief.

Norristown Again Elects Peter V. Hoy—For the twenty-ninth term, Peter V. Hoy has been elected chief of the Norristown, Pa., fire department.

Taft, Cal., May Build Municipal Building—Taft, Cal., is considering the construction of a municipal building which will house the fire department; the cost is estimated at $60,000.

Chester, Pa., Fire Marshal Issues Report—F. E. Soule, fire marshal of Chester county, Pa., has issued his report for the year ending March. In all, 337 fires were reported and 7,958 volunteer firemen responded to the calls.

COURSE OF INSTRUCTION IN FIRE PROTECTION

As Given at the University of Illinois

WATERWORKS AND PIPING

By Clarence Goldsmith

Assistant Chief Engineer, National Board of Fire Underwriters, Chicago, Ill.

IN this thirty-fourth installment of the University of Illinois Course in Fire Prevention, Mr. Goldsmith gives some important hints as to the cooperation between the fire and water departments, and the maintenance of hydrants and valves:

In a water system the fireman's first thought, naturally, is of the fire hydrant, because that's where he draws the water. The water department in most cases, and I believe properly so, should have charge of the care and maintenance of the fire hydrants themselves, and if its work is properly done, the fireman is going to be able to go to a hydrant and draw water whenever he wants to.

Should Notify Superintendent of Defective Hydrants

When the fireman finds a hydrant where he cannot get water or when he gets through using one which he cannot close, we should let the superintendent of the water works know the fact, and he might go further and see that the remedy is made. It may be you have had a fire a year or so ago at a certain point in your town, and you were able to get a couple of good hose streams off the hydrants; you remember that very well, but then, you had a little fire there last week, you went down and put on your hose line and got a very feeble stream but fortunately you got the fire out with that stream or with the chemical. You should immediately call the water works superintendent's attention to that fact, and find out the trouble.

Trouble with Closed Valves

Mr. Hunter tells of a test he made in a town and found a very small quantity of water available and that the pressure dropped off almost to nothing when they opened the hydrant. They went over the line leading to that particular locality and found the point where there was apparently some stoppage in the pipe; a concrete road was built over the line, and the valve box was covered up, and the valve was found nearly closed. He opened the valve and got a very satisfactory quantity of water. That's not an unusual case. In our inspection work we find numerous closed valves.

I was in the city of Boston for four years after 1910, and we found 150 valves of twelve inches and larger in that city closed. The city had gone to the expense of putting in the large pipes, but the closed valves cut the capacity practically in two. I could cite a hundred cases where we have found closed valves materially effecting the supply. They ought not to be closed, but they will get closed in spite of all human precaution. Where you find cases where the supply was good and has dropped off, get after it.

Mud Cloggs an Eight-Inch Main

I had a case about ten years ago in the city of Omaha. We went to draw some water on a dead end, an eight-inch main, a main of ample size apparently, but could not get more than two or three hundred gallons of water a minute. It happened in that case there was small consumption on the end of the line, and as unfiltered Missouri river water was the source of supply, the main was about four-fifths filled with very fine mud. They blew out the mud, and the supply was practically normal.

Lead Joints Fill Up Pipe

I have another case in mind of a dead end line of a six-inch pipe. At one time they got two good hose streams from it, but in about a year they could hardly get a drop of water out of it. When they poured one of the lead joints in that main the lead ran down that pipe in streamers. They poured the lead in until they got the joint full; seventy or eighty pounds of lead went into the pipe. The velocity of the water rolled those lead streamers up so that they formed a ball of lead there and finally practically stopped up the pipe. Of course, such cases are very few, but they are liable to be very serious when they do occur.

Importance of Hose Coupling Standardization

We always have a question of hose threads. In many of our larger cities and towns, in going over the hose threads and hydrants with the fire departments and on the connections where there is private equipment, almost invariably we find some threads off size, some so badly off size that they will not fit at all. There is a standardization movement on now. The standard thread has been adopted by all the leading engineering societies, and in connection with the thread standardization, the fire marshals throughout the several states are supporting the movement. It is really becoming more important now since the introduction of hard roads. Until recently it did not make much difference whether or not your threads fitted the hydrants of the neighboring towns, because you could not get there in time to do any good, but today with the hard roads and the pumper, you can cover distances which ten years ago you would not have thought of covering. If you get into a town and your threads don't fit, you are not going to be of much assistance.

As I said before, it is the fellow in the small city and town that has to use his wits. If you are in a town and your threads don't fit you can get one length of hose from that town and get the burst-hose jacket and make a coupling. If you have a pumper and want to utilize what water there may be, you can get a barrel with a hole in the side, put the pump suction in the barrel and have a man attend the hydrant. There is always some way out of the trouble, and we can get the water if we try.

I went with the city of Boston's fire department to the conflagration that destroyed the city of Salem, Massachusetts. We got there before the fire reached its height. Our suction couplings would not fit the Salem hydrant threads, but we had a master mechanic of the department who went with us, and he got water as long as there was water in those mains by using his wits. That's all you have to do when up against it—utilize what you have.

Help the Superintendent Care for Hydrants

The care and inspection of the hydrant of course is up to the water department, but perhaps the water department does not take as great interest in that branch of the work as it ought to. The water superintendent, rightfully so, is mainly interested in furnishing good, pure water for domestic consumption. He is generally pretty busy in a smaller place and probably is called upon to undertake more trades in twenty-four hours than almost any other man and is liable to forget all about the fire hydrants. It is well enough for the firemen to talk it over with the superintendent, but if he hasn't time to do the work and wants you to take hold and inspect the hydrants, go ahead and do it. The hydrants ought to be inspected. That should consist of going to the hydrant and taking the caps off to see that they work freely; if they don't, they should be greased. See if the hydrant has any water in the barrel. (It probably will not in the fall of the year as the ground is liable to be dry.) If it has not, then open the hydrant and blow it out. When you close the hydrant, notice whether it closes easily, is tight and drains properly. A hydrant frozen up is really worse than no hydrant at all, for if you lay your line out and have a frozen hydrant, you have lost valuable time. With a motor pumper it is a mighty good thing to get a hydrant thawing device, for you are bound to find some frozen hydrants. Sometimes in the winter we find five per cent of the hydrants frozen, so we cannot get water. When we had the old steam fire engine we could do a little thawing with it, but now it is not economical for a small city or town to maintain a boiler for thawing purposes when several practical devices are available which can be attached to the pumper. You can readily see it is well for you to know about the maintenance and use of hydrants.

(To be continued)

Owasso, Mich., Firemen Ask for Pay Increase—The firemen of Owasso, Mich., have petitioned the mayor for an increase in salary of $15 a month. It is claimed that in the group of Michigan cities of that population, Owasso pays its chief the lowest salary.

Presque Isle, Me., Chief Entertains Firemen—Chief Harry L. McKay, newly elected chief of Presque Isle, Me., was host to the members of the department at an oyster stew supper. Harry R. Pipes, who resigned, was presented with a gold watch by the firemen.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Maintaining the Department's Reputation

People lock doors and fasten windows to prevent the theft of articles. Yet when the firemen arrive, doors and windows are no barriers, and as undesirable as the visit of the department is, the firemen are always welcome.

The fireman symbolizes the protection of property and the safeguarding of whatever valuables may be present. He enters freely into the various rooms of a home without any one doing guard duty over him. The public has confidence in him.

In the excitement of having a fire, people frequently forget where they put valuables; or they may leave such at very conspicuous and convenient places. If the man has a weak trait in his character, there is always the temptation to steal things that are thus exposed to his view.

For example a fire occurred in a community center. Among the articles saved was a collection of phonograph records. These were placed in some safe place, and after the fire was over, a member of the department took them to his own home.

Over in England, a woman of the nobility sued the local fire department. A fire broke out in one of the upper rooms but later she found the chief and members of his company in the cellar, very much under the influence of liquor, and a large stock of her bottled wares had disappeared. It was brought out in her suit that as the fire was in an upper floor of the house the men had no business in the cellar.

This brings to mind a little history of the salvage corps. Years ago, that unit had the reputation of being made up of petty thieves. Today, if a member is caught taking as much as a broken toy, the punishment inflicted is enough to discourage the man from continuing the practice.

Firemen discovered taking articles from fire premises should be severely dealt with, and even dismissed from the service. Where temptations are so great, and opportunities for taking things are so many, men with questionable traits should not be considered for the volunteer department. Through the improper actions of the few, the entire department falls in the respect that the public have for it.

Not only should the firemen protect the property of the people, but after the fire is over, means should be taken to protect the place from petty thieves until the owner arrives, or until the police take over the policing of the premises.

Of what value, is the risking of life and the inconveniences incurred in order to save property, if some of the property thus saved is stolen either by men from within or without the department?

No charge of petty thievery, no matter how small, should escape the attention of the officers.

On the other hand, if severe punishment is meted out, the practice will soon be discouraged. In the small towns and cities where people know each other, the moral degradation is enough to make one consider twice before taking something from a fire for himself without the permission of the owner.

The fire service has high standards to live up to. The breaking of the honest moral in one department, not only affects that particular town, but it is destructive to the companies in the vicinity. Guard the trust that the public imposes in you.

Farmers Form Fire Protection Association

One hundred and eighty farmers in and about Winnebago, Minn., have formed what they call the Co-opertaive Fire Association. They propose to be independent of neighboring municipalities when visited by flames. They have bought considerable equipment, and plan to add to this from time to time as necessity requires. Their purchases thus far include a fire truck with a 140-gallon water tank, a 40-gallon chemical tank, a small tank for soda, two hand extinguishers, a 50-foot ladder, two reels of fire hose, and 50 feet of suction hose. The equipment was paid for by assessing each member $15. The truck is to be kept at the Winnebago city fire hall, and will be operated by the local fire department. In return for harboring the truck the city will be allowed to make use of it whenever it is needed. With good smooth roads under state control, many communities which had contemplated buying fire apparatus have now abandoned the idea. It is cheaper to pay for city service. they claim, in cases of emergency.

Electrical Fires

Handling fires around electricity is frequently more dangerous in smaller communities than in the larger cities. This is due to the stringent regulations enforced in most large cities regarding high voltages. Electrical systems in large cities are so arranged that for industrial use 220 volts is most commonly found while in dwelling and office establishments 110 volts is most commonly employed, with an occasional system at 120 volts.

In small towns, however, the story is very much different. In this case power is secured from alternating current lines, and electricity is transmitted at high volteges. It is stepped down by use of transformers to 110 or 220 volts for local use. Frequently the installations are not up to standard and transformers carrying 2,200 volts or higher may be found attached to buildings at points where they would be easily reached by men opperating at a fire.

A few days ago a member of the Bluefield, W. Va., fire department was killed when he came in contact with 2,300 volts while fighting a blaze in a dwelling house.

To guard against such accidents volunteer departments should be thoroughly posted in the essentials of electricity and should know how to protect themselves against injury from electrical surges.

Use no soda and acid nor foam extinguishers when operating on electric fires. The streams from both of these extinguishers are both highly conductive and the men employing such may meet with serious injury by applying the streams on charged electrical apparatus.

For small electric fires the carbon tetrachloride extinguisher is the most effective, for it not only extinguishes the fire, but it breaks electric arcs and at the same time does not serve as a conductor.

Where the fire gets beyond the capabilities of the carbon tetrachloride extinguisher, then water streams must be employed.

Fresh water streams are far less dangerous than commonly believed. If a range of around 30 feet between the nozzle and the charged electrical apparatus is maintained there is practically no danger to the men operating the line. A stream of fresh water this length does not carry enough electricity, even where the charged apparatus carries 10,000 volts, to seriously interfere with the men's work.

But do not use water on electrical machinery if it can be avoided. Motors, generators, rotary converters, and switchboard installations may be seriously damaged by wetting. It has been figured that to remove the armature of an electric motor, when it has become water soaked and dry, it costs one-half the price of a new machine.

Other extinguishers which are effective in handling incipient electrical fires include soda and sawdust, sand and ashes.

Finally, before operating on any electric fire cut off the source of supply by opening switch, circuit breaker or even cutting wires if necessary. Take no chance that a wire is not charged, but treat every wire as if it was charged with current. This will eliminate a lot of accidents which might be caused by ignorance of electric circuits.

East Has Run of Forest Fires

Forest fires, which developed in many communities in the East gave fire departments in the vicinity a long and hard battle.

A steam shovel in Marshfield, Mass., started what was considered one of the largest forest fires in the district. It burned over thousands of acres in ten Plymouth county cities and townships. Aid was sent from Scituate, Pembroke, Duxbury, Kingston and Brantrock.

Fire raged uncontrolled in Whitman and burned about seventy-five acres of timber land. More than one hundred volunteeds fought this blaze.

A number of forest fires have been reported in the vicinity of Fall River, Mass. About 2,500 acres of timber were affected. Many fires were also reported in Rhode Island.

Fires also broke out in several sections in Connecticut. Five alarms were sounded to call out the older school children and volunteers of East Hampton to fight a fire which destroyed about two hundred acres. Fishermen are believed to have started a fire in the woods in the eastern part of the state near Voluntown. Several fires were also reported in the eastern part of Connecticut.

Newly Elected Fire Chiefs

GOUVERNEUR, N. Y.—R. Boulet (re-elected)
REDWOOD, N. Y.—Fred Hartman.
BALLSTON SPA, N. Y.—James E. Conner, Sr. (re-elected).
SANDY CREEK, N. Y.—Fred I. Bellinger.
PATCHOGUE, N. Y.—Alex. Gunderson.
MONTICELLO, N. Y.—Robert S. York.
ST. JOHNSVILLE, N. Y.—La Pierre Kretser.
GOWANDA, N. Y.—Philip Doudt.
CLERMONT, IA.—Anson Priest.
HAMPTON, VA.—Frank W. Darling.
BROWNVILLE, N. Y.—Ross Parker.
LACONIA, N. Y.—H. F. Pratt.
MONTICELLO, IND.—Asa Lods.
LAWRENCE, MASS.—Charles W. Hinxman (re-elected).
PALMER, IA.—J. R. Kolp.
GLENDALE, W. VA.—Frank Webb.
RICHWOOD, W. VA.—A. B. Campbell (re-elected).
LAUREL, DEL.—Wm. A. Easom.
YOUNGSVILLE, PA.—A. H. Bradway.
BINGHAMPTON, N. Y.—Elmer J. Brown.
WAVERLY, N. Y.—Lee Starr.
DOBBS FERRY, N. Y.—John J. Graney.
CLAYTON, N. Y.—Nelson Longton.
LANSDOWN, PA.—Thos. McLoon.
NEWPORT, R. I.—Joseph S. Lawton.

McAuliffe Resigns from Chicago Force

Jeremiah McAuliffe, first assistant fire marshal of the Chicago fire department, resigned from the service after an unblemished record of thirty-eight years. He is sixty-two years old and retires at a pension of $3,000 a year. The reason given for the action is that he wished to take a rest.

It is generally believed that this is the result of political action. Rather than run the risk of a possible demotion and a decrease in his pension, the resignation forestalled any political machinations.

Chief McAuliffe has been acting head of the department during the several months that Chief Seyfelich was on hospital leave. M. Corrigan of the sixth division has been named to the post made vacant by McAuliffe.

Pocatello, Ida., Has Good Record

According to the annual report submitted to the city council by Chief A. B. Canfield of Pocatello, Ida., that city had a fire loss per capita for the past year of thirty-six cents, the lowest in the history of the department. The year previous, the loss was seventy-five cents per capita. The total loss on property for 1925 was $7,394. The number of alarms has decreased from 121 in 1924 to 88 in 1925. Most of the alarms were received by telephone-messenger, 3, fire alarm box 18 and telephone, 67.

An appreciation was expressed for the cooperation rendered by the water department and other city organizations.

No False Teeth for Firemen

According to a recent ruling of the director of public safety of Philadelphia, unless a fireman has twenty good teeth, he will not be permitted to be in the Philadelphia fire department.

Probably because of the fact that the one involved is a fireman, there is some discount on the number of teeth that is required. No ruling has been made on the technical question as to whether bridgework firmly anchored will be given full credit—plates and other removable teeth are, however, firmly disqualified.

As one newspaper remarked in commenting on the ruling, "The point is this, that when a fireman gasps in a smoky fire, if his teeth aren't well braced, he swallows them. It doesn't need any explanation to make clear that a fireman with a full set of teeth sticking in his throat is practically valueless for purposes of putting out fires."

N. J. Firemen Plan for Anniversary

Committees have been appointed to formulate plans for the proper observance of the fiftieth anniversary of the New Jersey State Firemen's Association at Atlantic City.

On the first day of the meeting, memorial services will be held for the departed members. A history of the association will be presented by President Spencer.

All of the business matters will be completed on Friday, September 23, the second day of the gathering. On Saturday, it is planned to have a parade made up of 125 fire companies. T. Howell Johnson is secretary of the association with headquarters in Room 602, Chamber of Commerce Building, 20 Branford Place, Newark, N. J. He is also chairman of the committee on the convention arrangement, badges and finance.

Newly Developed Foam System Test

(*Continued from page* 440)

and extinguished in a few seconds with one extinguisher.

The second test consisted of extinguishing a fire in a tray approximately 5 x 9 feet in area.

In this case a single extinguisher did the work.

Fig. 3 shows this test as the fire is being brought under control.

Test of Foam Generator

The foam generator demonstrated its ability to put out a fire in a vat 30 feet in diameter and filled, over a layer of water, with 450 gallons of various types of oils and gasoline.

In the first test the fire was allowed to burn four minutes before foam was applied. Fig. 4 shows the tank before the fire and the oil was dumped therein.

Fig. 5 shows the fire at its height and just at the moment the signal was given to start the foam generator.

In this test it took 29 seconds to extinguish the fire in the oil tank with a single stream.

Fig. 6 shows this stream just as it was put into action.

To demonstrate that the oil had not entirely burned away the fire was reignited and allowed to burn three minutes before the foam stream was again applied.

In the second test it took 24 seconds to completely extinguish the blaze.

In the first test 1½ crates of powder were used—that is approximately 68 pounds of the two types of powder, making 34 pounds of each type. The weight of each crate is 45 pounds, and each can, approximately 22 pounds.

In view of the fact that rain continually fell during the demonstration, thoroughly wetting the hopper, and also that a heavy wind was blowing, the demonstrations were considered very successful. Rain falling in the hopper of the generator had no apparent effect in retarding the flow of powder therein.

Top: Fig. 5. Oil Pit Afire just as Foam Was Started
Bottom: Fig. 6. Foam Stream which Put the Fire Out

Oakmont, Pa., to Purchase Pumper—The council of Oakmont, Pa., are considering bids on a 1,000-gallon pumper.

Florence, Ala., Holds Open House—The public were the guests recently of the Florence, Ala., department and inspected the new fire station.

Indianapolis Firemen Aid in Clean Up—Forty firemen, one from each of the fire companies in Indianapolis, Ind., assisted in the clean up program sponsored by the Junior Chamber of Commerce. A portion of the week was devoted to inspecting buildings for fire hazards.

BUFFALO

Type 50

Best in Quality - Efficiency and Performance

Type 50—500-Gallon Pump; 75-Gallon Booster Tank; 1,200 Feet Hose Body; Miscellaneous Equipment.

Type 55—500-Gallon Pump; 2 40-Gallon Chemical Tanks; 1,200 Feet Hose Body; Miscellaneous Equipment.

Type 60—600-Gallon Pump; 75-Gallon Booster Tank; 1,200 Feet Hose Body; Miscellaneous Equipment.

Type 65—600-Gallon Pump; 2 40-Gallon Chemical Tanks, 1,200 Feet Hose Body; Miscellaneous Equipment.

Recent Purchasers of BUFFALO Equipment

Adams, N. Y.
Minoa, N. Y.
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Canton, N. Y.
Port Jervis, N. Y.
St. Johnsburg, N. Y.
Port Allegany, Pa.
Nunda, N. Y.
Brimfield, Mass.
Winchester, N. H.
York, Pa.
Sunbury, Pa.
Dalton, Pa.
Clark Summit, Pa.
East McKeesport, Pa.
Manchester, Pa.
Perry, Ohio
Sanborn, N. Y.
Eden, N. Y. (2)
Sayreville, N. J.
Port Monmouth, N. J.
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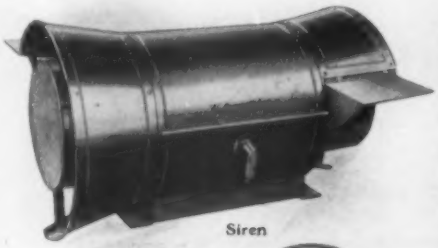

Siren

"M D"
Fire Alarm Station

ELECTRIC SIRENS

For Fire Alarm Signaling

In small towns where an unmistakable penetrating signal is required the Holtzer-Cabot Siren with its distinctive tone ranging from a deep gutural roar to a weird penetrating screech commands instant attention.

It has a sound penetration radius of about two miles in ordinary conditions.

Write now for specifications.

Fire Alarm Control Panel in Case

Manufacturers of Signaling Systems for over 50 years

THE HOLTZER-CABOT ELECTRIC COMPANY

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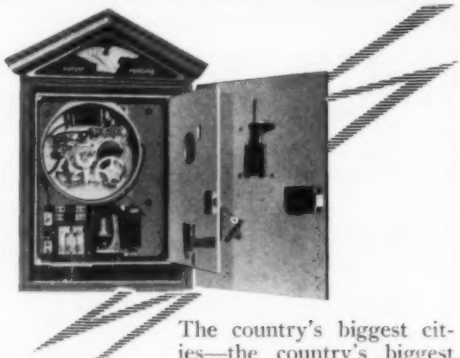

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We originated and were first to use Aluminum Boxes--can't rust or corrode.

The country's biggest cities—the country's biggest factories choose H-S fire alarm equipment because of its dependability and never failing operation. Back of "H-S" is a group of engineers with years of experience in designing, building and installing fire alarm equipment that never yet has failed to more than make good on the confidence placed in it. Before you buy write for bulletins and all facts.

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Traffic Signal Equipment — Fire Alarm and Police
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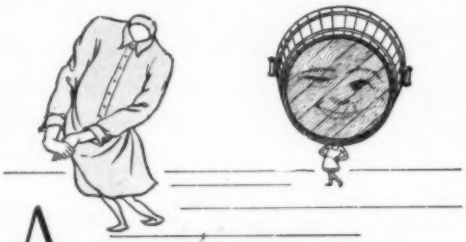


Are your Shirts Shy of the Washtub?

Some shirts have reason to be shy of wash tubs. Not so, Signals. Our TubTesT fabrics are dyed and preshrunk in such a way that Signal shirts can't lose color or fit in washing. There isn't a more practical shirt for firemen *anywhere* than the Signal Two-Collar shirt made of either TubTesT medium blue chambray, or TubTesT dark blue percale. Send for samples.

Signal Shirt Company
Racine, Wis.

Signal

Bookings of "The Fire Brigade" Increase

(*Continued from page 436*)

City	Theatre	Date
Kentucky (Continued)		
Henderson	Grand	May 23–24
Himlerville	Himler	Sept. 3
Jackson	Pastime	July 29
Newport	Hippodrome	June 12–14
Maine		
Camden	Comique	October 12–13
Dexter	Park	July 13–14
Dover-Foxcroft	New Star	July 11–12
Milo	Chic	July 18–19
Northeast Harbor	Pastime	August 6
Maryland		
Capitol Heights	Prince George	May 26–27
Clifton Forge	Masonic	June 2–3
Kitzmiller	Maryland	July 21–23
Perry Point	Perry Point	June 16–17
Massachusetts		
Braintree	Braintree	May 18–19
Brookfield	Town Hall	May 16
Cliftondale	Dream	June 13–14
Essex	Richardson Hall	June 9 changed from June 16
Fitchburg	Cummings	May 8–11 changed from May 15–18
Haydenville	Club Hall	May 23
Lowell	Merrimac Square	May 15–18
Mattapah	Morton	May 22–24 changed from May 15–17
Nantucket	Dreamland	June 9
Newton	Community	June 12–15
No. Cambridge	Harvard	May 22–24
Orleans	Orleans	July 4
Peabody	Strand	June 3–4
Reading	Reading	May 25–26
Somerville	Central—Ball Sq.	May 26–28 changed from April 25–28
Watertown	Coolidge	June 30–July 2
Waverly	Strand	June 22–23
Wellfleet	Wellfleet	July 5
Weymouth	Gem	May 8
Wilmington	Grange Hall	June 25
Winchendon	National	July 20–21
Michigan		
Beaverton	Liberty	August 6–7
Chesaning	Crystal	July 6–7
Clarksville	Family	August 2–3
Gaylord	Star	June 21–22
Gladwin	Star	August 10–11
Saginaw	Franklin	May 10–16
Suttons Bay	Colonial	August 13
West Branch	Opera House	October 15–16
Montana		
Bozeman	Rialto	May 28–30 changed from May 29–31
Nebraska		
Broken Bow	Lyric	August 10–11
Decatur	Goldlight	July 22–24
Farnam	Community	August 19–20
Greeley	Idlehour	August 14–15
Nebraska City	Paramount	May 8–9
Pawnee City	Linwood	May 30–June 1
Sargent	Sun	October 28–29
Sterling	Isis	June 9–11
Wayne	Crystal	June 9–11
New Hampshire		
Derry	Broadway	November 5
Tilton	Pastime	August 28–29
New Jersey		
Berlin	Berlin	July 6–7
Brooklyn	Garfield	May 8–9
Dumont	Dumont	June 2–3
Heightstown	Heights	May 30–31
Hillside	Hillside	May 23–24
Hummelstown	Star	May 6–7
Laurel Springs	Laurel	July 6–7
Morristown	Park	May 9–11
Nutley	Franklin	May 23–24 changed from May 27–28
Palmyra	Broadway	June 13–14
Summit	Strand	May 4–7
Sussex	Crescent	June 11–12
Swedesboro	Embassy	July 13–14
Tenafly	Bergen	June 2–3
Toms River	Traco	May 30–June 1
New Mexico		
Albuquerque	Pastime	June 4–7 changed from April 26
New York		
Ft. Niagara	Ft. Niagara	June 10
Holley	Hollywood	May 30–31
Kenmore	Kenmore	May 15–16
Lynbrook, L. I.	Lynbrook	May 23–25
Valley Stream	Valley Stream	June 16–17
Weedsport	Burritt O. H.	May 27–28
North Dakota		
Fargo	State	May 23–25 changed from April 18
Ohio		
Amherst	Empire	June 19–20
Bethel	Bethel	May 14
Bluffton	Star	May 26–27
Bowling Green	Clazell	June 8–9
Chagrin Falls	Falls	June 3–4
Coolville	Auditorium	Oct. 28–29
Dover	Ohio	June 20–23
Fairport Harbor	Lyric	May 30–31
Flushing	Pastime	June 15–16
Greenville	Wayne	June 6–8
Grove City	Kingdom	July 24
Leipsic	Mystic	July 11–12
Mansfield	Ritz	June 5–11
Massillon	Lincoln	May 10–13
Middleport	Liberty	August 24–25
Millfield	Saunders	October 15–16
Mingo Junction	Grand	July 15–16
New Carlisle	Star	May 4
Newcomerstown	Ritz	May 16–17
Newton Falls	Strand	June 28–29
St. Bernard	Eagle	June 25
Sidney	Majestic	May 2–3
Westerville	Garden	June 25
Oklahoma		
Clinton	Hamly	May 29–30
Henryetta	Blaine	May 9–10
Madill	Queen	June 13–14
Miami	Glory B	May 4–5
Muskogee	Broadway	May 18–21
Nowata	Rex	June 23–24
Savre	Princess	May 15–16
Stillwater	Mecca	May 30–31
Stroud	Barton	May 29–30
Tecumseh	Palace	July 10–11
Tonkawa	Criterion	May 25–26
Watonga	Liberty	June 15–16
Oregon		
Astoria	Liberty	May 17–18
Condon	Liberty	May 8–9
Corvallis	Whiteside	May 30–June 1
Dallas	Majestic	May 24–26
Forest Grove	Star	June 6–8
Houlton	Grand	June 5–6
Independence	Isis	June 3–4
Mollalla	Lyric	June 11–12
Pendleton	Rivoli	May 26–28
Salem	Bligh's Capitol	May 17–20
Pennsylvania		
Bangor	Strand	July 4–5 changed from June 6–7
Canadensis	Amusement Hall	July 27 changed from July 6
Hummelstown	Star	May 6–7
Oxford	Oxford	June 6–7
Quakertown	Palace	June 6–7
Scranton	Roosevelt	May 16–17 changed from May 30–31
Rhode Island		
Hope Valley	Strand	June 15
Pawtucket	Strand	May 23–28
Providence	Victory	May 1–7
Woonsocket	Laurel	May 30–June 1
Tennessee		
Lexington	Princess	August 3
Memphis	Daisy	June 20–22 changed from May 30
Savannah	Central High School	June 7–8
Texas		
Borger	Rex	May 6
Panhandle	Rex	May 23
Stinnett	Rex	May 8
Vermont		
Brandon	Brandon	July 22–23
St. Albans	Bellevue	June 13–14
Springfield	Ideal	July 19–20
Waterbury	Rialto	June 10–11
Windsor	Strand	June 13
Virginia		
Edinburg	Pearl White	July 26
West Virginia		
Davy	Palace	July 24
Fayetteville	Dreamland	June 12
Iaeger	Iager	Sept. 3
Oak Hill	King	June 11
Wisconsin		
Chilton	Princess	August 24–26
Dousman	Masonic Home	June 22
Ft. Atkinson	Crystal	June 20–22 changed from April 11
Genoa City	Legion	July 9
Hartland	Victor	May 10–12
Kilbourn	Mission	July 10
L'Anse	Mazda	July 1–2
Milwaukee	Mirth-Savoy	May 3–5 changed from May 17
Milwaukee	Tivoli	May 3–5 changed from May 10
Milwaukee	Miller	May 2–8 changed from May 16
Oconto	Princess	June 20–21
Phelps	Northern Lakes	July 19–20
Stoughton	Badger	June 16–17
West Allis	Capitol	June 19–21
Honolulu, T. H.	Consolidated Amuse. Co.	July 17 and Sept. 24

Gary, Ind., Appoints Negro Firemen—Nine negroes were appointed firemen in Gary, Ind., for the first time in the history of the department.

Firemen Aid on Battle Field

Regardless of the danger involved when two factions in Portugal opened fire on each other and continued their warfare for six days, the firemen came forward and besides protecting buildings from the ravages of fire, they aided in removing the dead and injured.

The volunteer firemen of Oporto opened up a first aid station and with Dr. Barata de Rocha, one of the members, treatment was given to the soldiers who were injured. The firemen worked in the streets removing the injured and the dead under continual

Oporto Volunteer Fire Department

rifle fire; their work ceased when the fire became too intense. They also aided the doctor in applying dressing to the wounds.

When the bombardment was its worst, with bombs exploding all around, the post office building caught fire. The firemen climbed on to the roof, and the fire was soon under control. Shells were exploding all about. The government troops observing the activities of the firemen ceased firing for the moment.

Even after the rebel forces had left the city, the firemen continued their work. At first it was believed that the rebel forces would return, but even after such fears proved false, there was work to look after the dead and those who required medical attention.

The Portugese newspapers in telling of the incident give the Oporto volunteer fire department the highest of praise for their work in the time of need.

LEOPOLDO NUNES.

New Rules of the New York Fire Department

(*Continued from page* 433)

2 inches wide with round corners, the chin strap of black patent leather, ½ inch wide with slide of same material, fastened to the cap on each side with a small regulation button.

For all members attached to companies on fireboats:

Winter Wear—Caps to be of regulation indigo blue cloth, 3 inches high, with slight bell crown, lower part of cap to have a mohair band 1½ inches wide, drooping patent leather visor 2 inches wide with bound edge and green color underneath; patent leather chin strap, with one small Department regulation button on each side. The insignia of rank, or cap badge, to be fastened to the front of caps in the same manner as at present.

Summer Wear—To be of same style, make and dimensions, but of lighter material and with ventilators on sides.

Officers on Fireboats—Caps to be of regulation white duck, removable or adjustable cover, same style and dimensions as caps for winter wear.

(*To be continued*)

Erie Train Stops to Sound Alarm

When conversation in Piermont, N. Y., would lag, the discussion would always revert to the Erie railroad, and instantly each one would contribute his mite as to what he thought of the poor way the railroad was managed. But that is ancient history. Now the residents are enthusiastic boosters for the railroad that apparenttly disregarded service in an effort to save property.

The engineer of an Erie train who was going through the town noticed that a house on top of the hill was on fire. He stopped the train and blew his whistle continuously until the residents were aroused and the fire department responded. The conductor and some of the passengers on the train rushed to the house which was not far distant from the railroad tracks and by beating on the door, they soon aroused the people within the burning home.

Piermont now believes that that is the personification of service.

N. Y. Chiefs to Meet at Niagara Falls

The annual convention of the New York State Chiefs' Association is being held on May 31 to June 2 at Niagara Falls, N. Y., in conjunction with the annual meeting of the New York State Conference of Mayors and Municipal Officials. The convention will be opened by Chief John Gibson of Mt. Vernon who is president. Mayor William Laughlin of Niagara Falls will welcome the chiefs.

Chief August G. Derra of Schenectady will speak on the "Operation of a Bureau of Fire Prevention." Other papers to be presented are as follows:

Salvage Corps Operation by J. J. Conway, superintendent of the Underwriters' Salvage Corps, Cincinnati, Ohio.

An address by A. C. Hutson, assistant chief engineer of the National Board of Fire Underwriters.

Operation of Fire Departments in Villages and Townships by E. G. Fisher, chief of fire department, Ellenville.

Administrative Cooperation with Fire Departments by William D. Cameron, commissioner of public safety, Yonkers.

District Associations by James E. Mulcahy, chief of fire department, Yonkers.

Oil Burning Equipment by W. J. Harter, president Niagara Frontier Oil Burning Association.

There will be a general round table discussion on the afternoon of June 1, and many trips around the Falls have been arranged for the entertainment of the chiefs.

Boot Insert Protects Feet

A steel base insert to be placed inside of rubber boots is being marketed in New York City by the Philips Foot Protector Co., 554 Hudson St., for the express use of members of fire departments.

The protector is doubly reinforced on the sides and on the part where most of the foot injuries from broken glass and nails

Rubber Boot Insert Which Protects Feet From Cuts

are received. The steel is covered on all sides by a soft leather casting which is cemented and sewed in place.

In addition to being a safeguard against glass and nails cutting into the feet, it is claimed that the protectors ease the strain of wearing boots for long periods of time.

More Boxes for Harrisburg, Pa.—Additional fire alarm boxes will be placed in Harrisburg, Pa.

Durhamville, N. Y., Firemen Construct Station—Firemen of Durhamville, N. Y., constructed a fire station in their spare time. It will also be used for club purposes.

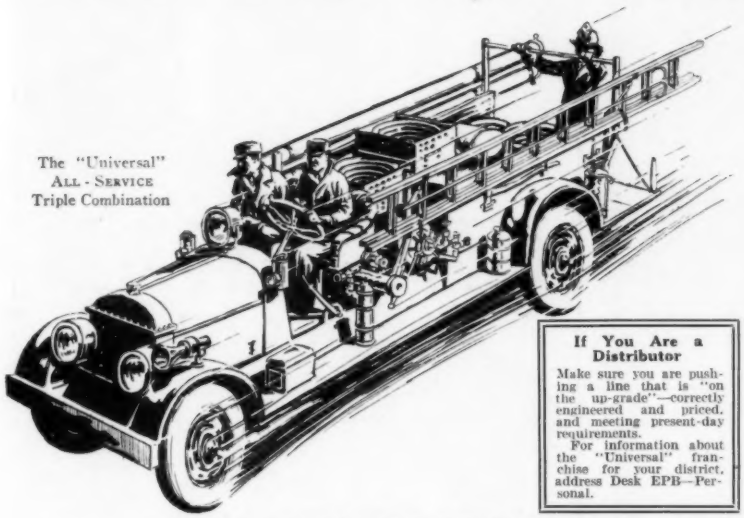
A. H. Goodrich New Chicago Fire Commissioner—Albert W. Goodrich has been appointed fire commissioner of Chicago by Mayor Thompson.

Jacksonville, Fla., Opens New Station—A new fire station has been opened in the ninth district of Jacksonville, Fla. The members of the company were guests at a dinner tendered them by residents of the district.

Paterson. N. J., to Improve Fire Alarm System—The Gamewell Company was awarded a contract for supplying 163 new fire alarm boxes to extend the fire alarm system of Paterson, N. J. Daniel F. Moore is superintendent of the fire alarm system.

Inspect Model of Chief Campbell Statue—Members of the Portland, Ore., fire department who were acquainted with the late Chief David Campbell were given an opportunity to view the clay model of the statue that will be dedicated at the time of the International Association of Fire Chiefs convention this summer. The statue is being modeled by Prof. Avard T. Fairbanks of the University of Oregon.

The Goal *of a Half Century*



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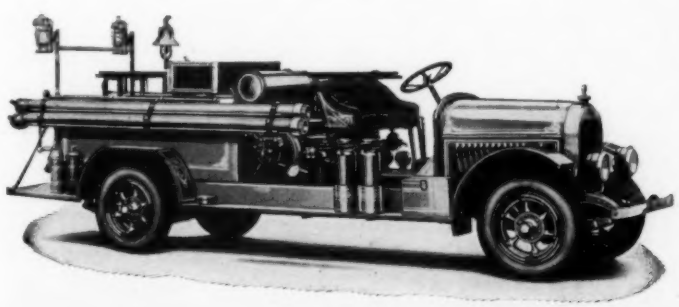

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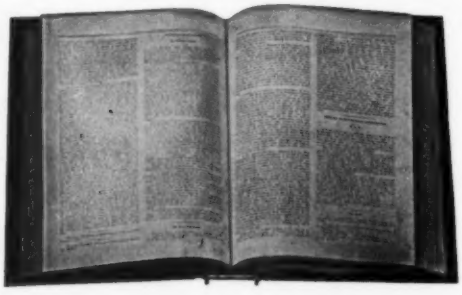

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NUMEROUS COMMITTEE REPORTS FEATURE N. F. P. A. CHICAGO PROGRAM

Fire Prevention Activities Largely Stressed —a Typical Program

FOLLOWING is the program of the thirty-first annual meeting of the National Fire Protection Association, (International), which is to take place at the Congress Hotel, Michigan Avenue and Congress Street, Chicago, Ill., on May 9 to 12. The headquarters are to established on the second floor of the hotel in the Gold Room.

Registration

Registration will begin on Monday, May 9th, at 10 a. m. at the Desk immediately before and during each business session.

An information service will be provided in connection with the Registration Desk where members may secure information about the city of Chicago, transportation, sightseeing excursions, etc.

Reception Committee—Percy Bugbee (Boston), Chairman.

Monday Afternoon, May 9, Opening Session, 2.30 p. m. Sharp

1. Roll Call. (2.30 p. m.)
2. President's Address. (2.40 p. m.)
3. Induction of Fire Marshals Association of North America as Fire Marshals Section of N. F. P. A. (3.00 p. m.)
4. Resolutions—Appointment of Committee. (3.20 p. m.)
5. Report of Executive Committee. (3.25 p. m.)
6. Treasurer's Report. (3.35 p. m.)
7. Report of Secretary. (3.45 p. m.)
8. Membership Committee Report. (4.00 p. m.) Charles E. Meek (New York), Chairman.
9. Public Information—Committee Report. (4.10 p. m.) Franklin H. Wentworth (Boston), Chairman.
10. Report from U. S. Joint Fire Prevention Committee. (4.25 p. m.) Frank C. Jordan, Chairman; Jay W. Stevens, Vice-Chairman. American Water Works Association: A. W. Cuddeback, J. E. Gibson, Nicholas S. Hill, Jr., Harry F. Huy, F. C. Jordan; International Association of Fire Chiefs: Sherwood Brockwell, George L. Johnson, J. J. O'Brien, R. J. Scott, J. W. Stevens; National Fire Protection Association: Geo. W. Booth, H. A. Burnham, H. L. Miner, Franklin H. Wentworth, Sidney J. Williams.
11. Report from Canadian Joint Fire Prevention Committee. (4.35 p. m.) W. H. Alderson, Chairman; George F. Lewis, Secretary. Canadian Manufacturers' Association: W. H. Alderson, George Brigden, Arthur Hewitt; Canadian Division, American Water Works Association: Wm. Gore, A. U. Sanderson, Norman R. Wilson; Dominion Association of Fire Chiefs: James Armstrong, A. C. Cameron, Wallace T. James; National Fire Protection Association: George H. Greenfield, John B. Laidlaw, George F. Lewis.
12. New York City Committee Report. (4.45 p. m.) Albert W. Pell, Chairman; P. E. Brown, Secretary.
13. Fire Prevention Week—Committee Report. (4.50 p. m.) T. Alfred Fleming (New York), Chairman.

This report, and the discussion following will deal with the accomplishments of Fire Prevention Week, 1926, and the 1927 Spring Fire-Prevention Clean-Up Campaign and plans for the next campaigns. Any member may participate in the discussion. Remarks must relate to the topic and be confined to a time limit of four minutes.

Monday, May 9, Evening Session, 8.00 p. m.

14. Hazardous Chemicals and Explosives—Committee Report. (8.00 p. m.) A. H. Nuckolls (Chicago), Chairman.

This report consists of revisions in the Table of Hazardous Chemicals presented last year.

15. Reports from N. F. P. A. Representatives on Committees of the American Engineering Standards Committee. (8.15 p. m.)

Representatives on other A. E. S. C. committees will report later in the program when N. F. P. A. committee reports on related subjects are being discussed.

16. Dust Explosion Hazards—Committee Report. (8.40 p. m.) David J. Price (Washington), Chairman.

This committee functions as a Sectional Committee of the American Engineering Standards Committee, under joint sponsorship of the N. F. P. A. and the U. S. Department of Agriculture. Subjects covered in this report are Pulverizing Sugar and Cocoa, Puiverized Fuel Equipments, Starch Factories.

17. Trade and Technical Activities in Fire Prevention—Reports from Organization Members. (9.00 p. m.) Leader: Hickman Price, Motion Picture Producers and Distributors of America.

A general discussion of the possibilities and results of fire prevention activities in trade and technical associations, five minute reports from organization members.

Tuesday, May 10, Morning Session, 9.45 a. m. Sharp, Fire Commissioners' Section Meeting

18. Zoning—Committee Report. (9.45 a. m.) Rudolph P. Miller (New York), Chairman.

This committee will present a progress report referring to recent developments in its field.

19. Salvaging Operations—Committee Report. (10.00 a. m.) John Ashmead (Hartford), Chairman.

A preliminary report discussing the general principles of salvage and presenting data on the effects of fire, water and smoke on some forty different classes of merchandise.

20. Laws and Ordinances—Committee Report. (10.20 a. m.) Franklin H. Wentworth (Boston), Chairman; W. E. Mallalieu (New York).

A suggested ordinance on oil burning equipments in the short "enabling act" form.

21. Marine—Committee Report. (10.40 a. m.) Samuel D. McComb (New York), Chairman; A. J. Smith (New York), Secretary.

New specifications on marine fire detecting systems presented for tentative adoption.

The chairman of the committee will describe the oil tanker fires and explosions of the past year and explain the committee's plans for controlling the hazards involved.

The chairman of the committee will report to the Association in his capacity of N. F. P. A. delegate to the American Marine Standards Committee.

At the same time a report will be made on the A. E. S. C. Committee on Electrical Installations on Shipboard, S. D. McComb and A. R. Small, N. F. P. A. representatives.

22. Round Table Discussion—Problems of the Fire Commissioner. (11.00 a. m.)

Short addresses by leading fire commissioners on topics of current interest will be followed by general discussion open to all members and guests present.

Tuesday, May 10, Special Luncheon, 12.30 p. m., Florentine Room. Speaker, Irving T. Brush, National Chairman, Field Service Fund Campaign

Those expecting to be present should indicate their intention by mailing prior to May 6 the postcard which is sent to members with this program, or by purchasing tickets at the Registration Desk on May 9.

Tuesday, May 10, Afternoon Session, 2.30 p. m., Fire Marshals' Section Meeting

23. Pyrotechnics—Committee Report. (2.30 p. m.) Geo. W. Elliott (Philadelphia), Chairman.
24. Farm Fire Protection—Committee Report. (2.40 p. m.) David J. Price (Washington), Chairman.
25. The Model Arson Law (2.55 p. m.)

Reports from states where the Model Arson Law of the Fire Marshals Section has been introduced into the legislature and enacted.

26. Round Table Discussion—Problems of the Fire Marshal. (3.20 p. m.)

Short addresses by fire marshals on topics of current interest followed by general discussion.

27. Flammable Liquids—Committee Report. (4.20 p. m.) H. L. Miner (Wilmington, Del.), Chairman; H. E. Newell (New York), Secretary.

A comprehensive report covering houses, rooms and cabinets for the storage of flammable liquids; gasoline tank trucks; marine oil terminals; proposed amendments to the regulations on oil burning equipments; minor amendments to the regulations on dry cleaning and dry dyeing.

Tuesday, May 10, Evening Session, 8.00 p. m.

28. The N. F. P. A. Field Service. (8.00 p. m.) (a) Report by Percy Bugbee, Field Engineer; (b) Report by H. L. Bond, Field Engineer.

These reports will be followed by a general discussion in which any member may participate. Remarks must relate to the topic and be confined to a time limit of five minutes.

29. Child Psychology in Fire Prevention. (9.25 p. m.)

Address by Harry K. Rogers, the "Fire Clown" describing his methods of interesting school children in fire prevention.

30. Motion Pictures. (9.45 p. m.)

(a) Everyday Fires. Selected views of Typical Daily Fires in America. N. F. P. A. Film.

(b) Fortify for Fire Fighting. Fire Equipment Manufacturers Institute (Member N. F. P. A.).

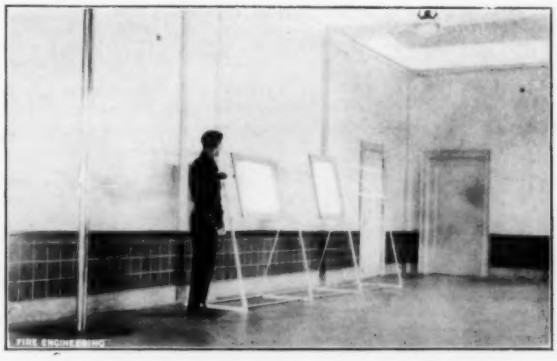
(c) Flaming America. Western Actuarial Bureau (Member N. F. P. A.).

Wednesday, May 11, Morning Session, 9.45 a. m.

31. Electrical Field Service—Committee Report. (9.45 a. m.) A. R. Small (New York), Chairman.
32. Report of Electrical Field Secretary, W. J. Canada. (9.55 a. m.)
33. Electrical Committee Report. (10.20 a. m.) A. R. Small (New York), Chairman.

An informative report by the chairman briefly summarizing the recent developments in the work of this committee.

(*Continued on page* 457)



Metal Rack for Fire Box Location Charts

In the new quarters for Engine No. 29, San Francisco, Cal., there is a light metal frame in one of the rooms on which are mounted the charts showing the location of the fire alarm boxes. This is an improvement of the old plan of pasting the charts on the wall. All of the interior work in the new station is just as attractively designed as the room illustrated.

CHARLES W. GEIGER.

CONVENTION DATES

May or June—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention, Darlington, S. C., date at pleasure of Convention City. Secretary, R. S. Hood, Sumter, S. C.

May 3-4—SOUTH DAKOTA ASSOCIATION OF FIRE CHIEFS. Annual Convention, Brookings, S. Dak. Secretary, Chief C. M. Johnson, Rapid City, S. Dak.

May 9-12—NATIONAL FIRE PROTECTION ASSOCIATION (International). 31st Annual Meeting, Congress Hotel, Michigan Ave. and Congress Street, Chicago, Ill. Secretary, Franklin H. Wentworth, 40 Central St., Boston (9), Mass.

May 31-June 3—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 21st Annual Convention, Niagara Falls, N. Y., in connection with Conference of New York State Mayors and Other City Officials. Secretary, Chief James H. Golden, Cohoes, N. Y. Chairman, Exhibit Committee, Chief John Espey, Elmira, N. Y.

June 1-2—INSTITUTION OF FIRE ENGINEERS (British). 4th Annual Conference, Liverpool, England. President, Firemaster A. Pordage, Edinburgh, Scotland. Interim Secretary, Miss M. B. Calder, Edinburgh Fire Brigade.

June 6-9—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 33rd Annual Convention, Okmulgee, Okla. Secretary, Charles Slemp, 312 East 13th Street, Oklahoma City, Okla.

June 7-9—OHIO FIRE CHIEFS' ASSOCIATION. 10th Annual Convention, Mansfield, Ohio. Secretary, Chief Philip J. Harty, Fire Department, Youngstown, Ohio, Sheet and Tube Company.

June 7-9—SOUTH DAKOTA FIREMEN'S ASSOCIATION. Annual Convention, Pierre, S. Dak. Secretary, J. J. Waltner, Freeman, S. Dak.

June 8—NORTHWEST ARKANSAS FIREMEN'S ASSOCIATION. Annual Convention, Springdale, Ark. Secretary-Treas., F. M. Brock, Bentonville, Ark.

June 14-16—TEXAS STATE FIREMEN'S ASSOCIATION. Annual Convention, San Antonio, Tex. Secretary, Olin Culbertson, Hillsboro, Tex.

June 15—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 54th Annual Convention, Delphos, Ohio. C. R. Bowerson, secretary, Toledo, Ohio.

June 16-18—PROVINCIAL FEDERATION OF ONTARIO FIREFIGHTERS. Annual Convention, Windsor, Ont., Can. Secretary-Treasurer, David H. Lamb, 132 Bellevue Ave. (2) Toronto.

June 16-18—MONTANA STATE FIREMEN'S ASSOCIATION. 36th Annual Convention, Helena, Mont. Secretary, D. E. Moser, Bozeman, Mont.

June 17-19—WISCONSIN STATE FIREMEN'S ASSOCIATION. 40th Annual Convention, Baraboo, Wis. Secretary, E. Philip Mueller, Jefferson, Wis.; State Organizer, Chief H. H. Niemeyer, Portage, Wis.

June 17-20—SIX COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Sunbury, Pa.

June 17-18—FOUR COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Lehighton, Pa. Secretary, P. J. McNally, West Catasaqua, Pa.

June 18—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Fredericksburg, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 21-23—FLORIDA STATE FIREMEN'S ASSOCIATION. Annual Convention, Hollywood, Fla. Secretary, Chief F. C. Pfaender, Winter Haven, Fla.

June 21-23—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 38th Annual Convention, Poughkeepsie, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie.

June 21-23—KENTUCKY STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATION. 9th Annual Convention, Owensboro, Ky. Secretary-Treasurer, Capt. S. G. Render, 303 Speed Bldg., Louisville, Ky.

June 21-23—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention, Congress Hotel, Portland, Me. Secretary, Chief John W. O'Hearn, Watertown, Mass. For reservations address Geo. E. Cobb Traffic Manager, 774 Albany Street, Boston, Mass.

June 21-24—THIRD SHORT COURSE IN FIRE PREVENTION. To be held at University of Illinois, Urbana. Address, C. E. Palmer, 401 Engineering Hall, University of Illinois, or State Fire Marshal John G. Gamber, Springfield, Ill.

June 27-29—MICHIGAN ASSOCIATION OF FIRE DEPARTMENT CHIEFS. Annual Convention, Bay City, Mich. Secretary, Chief Frank Ford, Highland Park, Mich.

July 12-14—MICHIGAN STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Lansing, Mich. Secretary, H. L. Williams, Luddington, Mich.

July 13-14—INDIANA FIREMEN'S ASSOCIATION. 10th Annual Convention, Indianapolis, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

July 19-23—SOMERSET COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Rockwood, Pa. Secretary, J. R. Shanks, Rockwood, Pa.

July 21-22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 34th Annual Convention, Cortland, N. Y. Secretary, Thomas F. Murray, Cortland.

July 25-28—DOMINION ASSOCIATION OF FIRE CHIEFS. 19th Annual Convention, Hull, Quebec. Secretary, Chief James Armstrong, Kingston, Ont.

July 27-28—VERMONT STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, St. Albans, Vt. Secretary, Edwin D. Moore, Bennington, Vt.

August—IDAHO STATE FIREMEN'S ASSOCIATION. Annual Convention, Wallace, Idaho, tentative date, last week of August, to be decided later. Secretary, Willard Adams, Rigby, Idaho.

Aug. 1-2—WASHINGTON STATE FIREMEN'S ASSOCIATION. Annual Convention (Tentative date), Chehalis, Wash. Secretary, H. S. Jenkins, City Electrician, Fire Headquarters, Bellingham, Wash.

Aug. 4-6—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 34th Annual Convention, Portland, Ore. Secretary, State Fire Marshal Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.

Aug. 6—CALIFORNIA STATE ASSOCIATION OF FIRE CHIEFS. Annual Convention, Portland, Ore. Secretary, Chief William Cooper, Richmond, Cal.

Aug. 7-8—OREGON STATE FIRE CHIEFS' ASSOCIATION. 8th Annual Convention, Portland, Ore. Secretary, Thomas Coates, Tillamook, Ore.

Aug. 9.—MASSACHUSETTS PERMANENT FIREMEN'S ASSOCIATION. Annual Convention, New Bedford, Mass.

Aug. 9-11—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 26th Annual Convention, Western Port, Md. Secretary, C. L. Jacobs, Waynesboro, Pa.

Aug. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 55th Annual Convention, Portland, Ore. Secretary, Chief J. J. Mulcahey, Yonkers, N. Y.; Executive Secretary, State Fire Marshal Jay W. Stevens, Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Albert Herring, Murphysboro, Ill.

Aug. 14-16—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual Convention, Elmira, N. Y. Secretary-Treasurer, Frank A. Emden, 1200 Lenox Avenue, Utica, N. Y.

Aug. 16-19—FIREMEN'S ASSOCIATION, STATE OF NEW YORK, and WESTERN NEW YORK VOL. FIREMEN'S ASSOCIATION. Joint convention of both associations, Niagara Falls, N. Y. Secretary, State Association, Fred A. Davis, Fort Edward, N. Y.; Secretary, Western N. Y. Association, Henry A. Clark, 21 Porter Avenue, Batavia, N. Y.

Aug. 24-26—VIRGINIA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention and tournament, Alexandria, Va. Secretary, E. K. Landis, Pulaski, Va.

Aug. 24-27—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Stockton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Street, San Diego, Cal.

Sept. 7—DELAWARE STATE FIREMEN'S ASSOCIATION. 7th Annual Conference, Rehoboth Beach, Del. Secretary, Sam H. Carson, Dover, Del.

Sept. 7-8—MISSOURI STATE FIRE CHIEFS' ASSOCIATION. 5th Annual Convention, Kirksville, Mo. Secretary, District Chief J. T. Lynch, Kansas City, Mo.

Sept. 7-8—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 2d Annual Convention, Kirksville, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 12-14—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Russellville, Ark. Secretary, H. D. Compton, Little Dock, Ark.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 40th Annual Convention, Jacksonville, Ill. Secretary, Roy A. Alsip, Champaign, Ill.

Sept. 20-21—IOWA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention and Anniversary, Emmetsburg, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 22-24—NEW JERSEY STATE FIREMEN'S ASSOCIATION 50th Annual Convention and Anniversary, Atlantic City, N. J. Secretary, William Exall, Chamber of Commerce Bldg., Newark, N. J.

Sept. 23—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J. Second Quarterly Meeting, Wednesday, May 4, at Somerville, N. J.

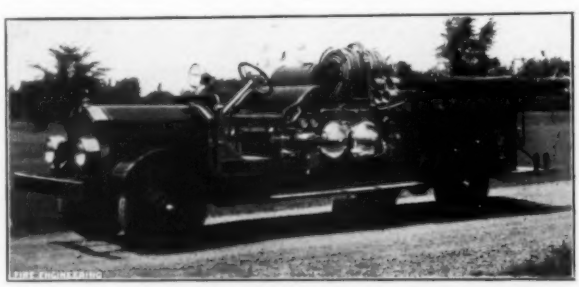
Oct. 4-6—PENNSYLVANIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Shamokin, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 17-19—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. 11th and 40th Annual Conventions, Kansas City, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Lawton Now Chief in Newport, R. I.

Joseph S. Lawton, deputy chief in Newport, R. I., for a number of years, has been selected as head of the department to fill the vacancy caused by the death of Andrew J. Kirwin.

The council did away with the elective position of deputy chief. Instead Chief Lawton was given power to name his deputy chief from among those with the rank of captain. Captain Freeborn who was the senior captain was named for this honor.



Willowvale, N. Y., Receives New Childs Pumper to Replace One Destroyed by Fire

A 600-gallon triple combination Childs "Thoroughbred" pumper has been delivered to Willowvale, N. Y. This pumper takes the place of the Childs pumper that was lost when fire destroyed the fire station in which the apparatus was housed. The new pumper has been placed in service.

South Gate, Cal., Firemen Charged with Arson—Four firemen of South Gate, Cal., were charged with being responsible for the outbreak of a number of fires in the district. Police became suspicious when the fires occurred in a regular and similar manner. A warrant was also issued for the arrest of the chief who is said to be implicated in the arson crime.

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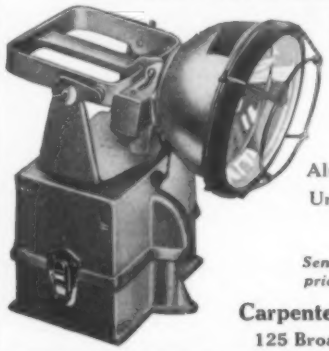

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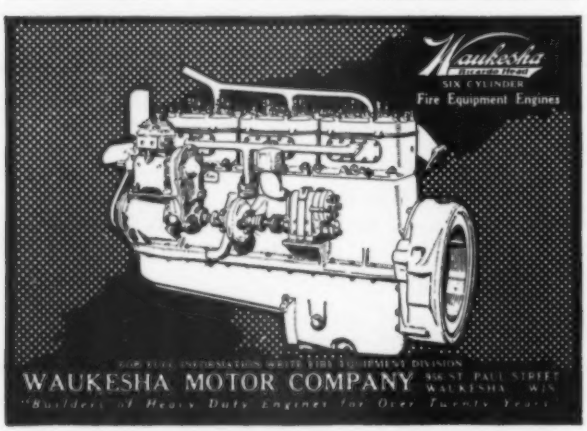

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PROPOSED IMPROVEMENTS

Lyon Park (Mail Arlington) Arlington Co., Va.—A chemical fire engine is to be purchased for the community.

Wheeling, Ohio Co., W. Va.—City Council considering remodeling and improving fire stations in the city.

New London, Henry Co., Ia.—Funds being raised for the purchase of a triple combination car for the fire department.

Baltimore, Md.—Fire station to be erected at So. Division St. at cost of $35,000. Address City Council.

Magnolia, Camden Co., N. J.—Fire department to erect a new two-story fire station at cost of $15,000.

S. San Francisco, San Mateo Co., Cal.—National Board of Fire Underwriters recommended the reorganization of the fire department, a new 750 gal. pumper in a new fire station in the industrial district; a 750 gal. per minute pump installed on the present hose and chemical truck. John Costa, Chief of Fire Dept.

Shamokin, Northumberland Co., Pa.—A new fire fighting unit has been organized in the western section of Ralpho Township, to be known as the Ralpho Fire Co. No. 2. This section is one of Shamokin's suburban communities.

Millersburg, Dauphin Co., Pa.—Millersburg and Bethel fire companies of Bethel township, decided to merge into the Millersburg Union Fire Co.

Everett, Snohomish Co., Wash.—City Council voted unanimously for the erection of a bungalow fire station on 18th st., on the waterfront.

London, Laurel Co., Ky.—A Prospect fire engine was purchased recently for the local fire department.

Rockport, Essex Co., Mass.—It is reported that a pumper will be purchased for the fire department here.

Shelburne Falls, Franklin Co., Mass.—Reports state that a movement has been started for the purchase of 1,000 feet of fire hose.

West Point, Cuming Co., Nebr.—Another new piece of apparatus is to be purchased for the fire department.

Sea Isle City, Cape May Co., N. J.—City Commissioner has authorized the purchase of 2 pumpers and a chemical truck. The sum of $15,000 has been appropriated.

Lawrence, Nassau Co., L. I., N. Y.—The fire commissioners of the Lawrence-Cedarhurst fire department have purchased an Ahrens-Fox pumper at $12,700.

Salem, Marion Co., Ore.—Special election to be held June 28 to vote on question of a tax of 2 mills for the purchase of fire equipment and erection of new fire stations.

Shamokin, Northumberland Co., Pa.—It is planned to hold an election to vote on a $25,000 bond issue for the purchase of fire apparatus.

Morton, Delaware Co., Penn.—Morton Fire Company in need of a new fire station.

Jersey Shore, Lycoming Co., Penn.—Reports state that volunteer fire department is in need of new equipment.

Leesburg, Loudoun Co., Va.—Fire department to erect a fire station. L. T. Frye, Chief.

Huntsville, Madison Co., Ala.—Ahrens-Fox have contract for a pumper for the fire department here.

Lockeford, San Joaquin Co., Cal.—Dr. Geo. Lock, Fire Marshall requested Board to set aside a sum of money for the purchase of fire hose.

Groton, New London Co., Conn.—It was voted to appropriate $3,500 for the purchase of a pumper with chemical equipment for use in fighting fire on outskirts of town.

Indianapolis, Marion Co., Ind.—On recommendation of Mayor John L. Duvall an ordinance providing for the appropriation of $250,000 for a new Gamewell fire alarm system to be placed in the present quarters of the city hall is being prepared. Plans are also being discussed to purchase approximately $100,000 worth of fire department apparatus and equipment, including a water tower. Jesse Hutsell, Chief of Fire Department.

Central City, Merrick Co., Nebr.—At recent Council meeting it was voted against the purchase of a fire engine.

Bristol, Grafton Co., N. H.—New piece of apparatus to be purchased for the fire department here.

Summit, Union Co., N. J.—Council instructed City Clerk Frederick C. Kentz to advertise for bids for new fire apparatus. These will probably include a new chemical engine and a new pumper for Hose Co. No. 2 in East Summit.

Canton, St. Lawrence Co., N. Y.—Gamewell Co. Newton Upper Falls, Mass., has contract for installation of the Gamewell Diaphone compressed air alarm and wiring system.

Price Hill (Suburb of Cincinnati) Hamilton Co., Ohio—Price Hill Business Men's Club requested City Manager C. O. Sherrill to provide an additional fire engine company in that community.

Mangum, Greer Co., Okla.—City in market shortly for 500 feet of fire hose, according to H. M. Renner, City Manager.

Deep River, Middlesex Co., Conn.—Chief Harold E. Jopson, Fire Dept., recommended the purchase of a pumper for the department.

Stamford, Fairfield Co., Conn.—A movement has been started to provide the fire department with better fire apparatus. Victor Veit, Chief of Fire Dept.

Whiting, Monona Co., Iowa—At recent Council meeting it was voted to investigate various chemical cars with view to purchasing a piece of apparatus for the local fire department.

Mansfield, De Soto Co., La.—The purchase of a piece of apparatus for the fire department was authorized by the Council.

Grand Rapids, Kent Co., Mich.—Safety Director James Sinke, was granted a conditional permit by the zoning board of appeals to build a fire station on the east side of Eastern Ave.

West Orange, Essex Co., N. J.—To invite bids in the near future for a piece of fire apparatus.

Absecon, Atlantic Co., N. J.—Ordinance passed for purchase of fire apparatus to cost $7,000.

East Orange, Essex Co., N. J.—Fire Chief Charles A. McGinley was authorized to purchase 2 deluge sets and two turret nozzles for fire department.

When

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N. F. P. A. Program of Meeting

(*Continued from page* 453)

34. Reports of N F. P. A. Representatives, A. E. S. C. Committees. (10.30 a. m.)

(a) Electrical Safety Code, W. S. Boyd. (b) Insulated Wires and Cables other than Telephone and Telegraph, A. H. Nuckolls. (c) Radio, R. B. Shepard.

35. Electric Power Houses—Committee Report. (10.40 a. m.) A. M. Schoen (Atlanta), Chairman.

A progress report describing the activities of this recently organized committee.

36. Signaling Systems—Committee Report. (10.50 a. m.) A. C. Hutson (New York), Chairman.

A tentative report giving proposed revisions in the Regulations on Protective Signaling Systems. No official action on this report is asked by the committee.

37. Gases—Committee Report. (11.10 a. m.) H. E. Newell (New York), Chairman.

This report includes regulations for compressed gas systems other than acetylene for house lighting and heating; and amendments to the regulations on gas systems for welding and cutting and on internal combustion engines.

38. Manufacturing Risks and Special Hazards—Committee Report. (11.25 a. m.) Jos. G. Hubbell (Chicago), Chairman.

A progress report referring to matters under consideration by the committee.

39. Blower Systems—Committee Report. (11.35 a. m.) Robert Palm (Verona, N. J.), Chairman; J. L. King (New York), Secretary.

A revision of the regulations on blower and exhaust systems for heating and ventilating, stock and refuse conveying, presented for adoption.

40. Protection of Records—Committee Report. (11.50 a. m.) H. P. Weaver (Philadelphia), Chairman.

This report deals with the construction of record rooms, the severity, duration and control of exposure and various other items.

Wednesday Afternoon, May 11, Visit to Underwriters' Laboratories, 207 E. Ohio Street. Demonstrations and Exhibits of Laboratories Testing Equipment

Thursday, May 12, Morning Session, 9.45 a. m.

41. Protection of Openings in Walls and Partitions—Committee Report. (9.45 a. m.) J. A. Neale (Chicago), Chairman.

This report presents minor amendments to the Regulations on Protection of Openings in Walls and Partitions Against Fire.

42. Building Construction—Committee Report. (9.55 a. m.) Chas. E. Paul (Chicago), Chairman; F. H. Alcott (New York), Secretary .

A detailed report on standard industrial buildings of the concrete, steel, and heavy timber types, presented for tentative adoption.

43. Piers and Wharves—Committee Report. (10.20 a. m.) Charles H. Fischer (New York), Chairman.

A progress report referring particularly to recent fires in pier and wharf property.

44. Safety to Life—Committee Report. (10.30 a. m.) E. S. Chapin (Philadelphia), Chairman; Robert S. Moulton (Boston), Secretary.

This committee with enlargement of its personnel is the Building Exits Code Committee of the American Engineering Standards Committee. This report presents for tentative adoption a new section of the Code on Places of Public Assembly, including theatres, motion picture theatres, public and private halls, churches, etc.

45. Garages—Committee Report. (10.55 a. m.) H. E. Newell (New York), Chairman.

A report on motor bus garages, presented as a progress report.

46. Civic Fire Prevention Conference. (Fire Prevention Problems of Chamber of Commerce. (11.15 a. m.)

(a) Selling Fire Prevention to the Business Man. (b) Fire Prevention as a Factor in Attracting Industries to cities.

These topics will be discussed by Chamber of Commerce executives and fire prevention committee chairmen, after which the general discussion will be open to all N. F. P. A. members.

Thursday Afternoon, May 14, Final Session, 2.00 p. m.

47. Automatic Sprinklers—Committee Report. (2.15 p. m.) • F. B. Quackenboss (Nashville), Chairman.

This committee presents amendments to the Sprinkler Regulations.

48. Field Practice—Committee Report. (2.35 p. m.) C. B. Langdon (Hartford), Chairman.

This committee presents for adoption a revision of the Regulations on Standpipe and Hose Systems.

49. Fire Pumps—Committee Report. (2.55 p. m.) Ezra E. Clark (Boston), Chairman.

This report presents amendments to the regulations for centrifugal fire pumps, covering control equipment for electrically driven fire pumps and gasoline engine driving of fire pumps.

50. Small Hose Couplings—Committee Report. (3.15 p. m.) R. W. Hendricks (Chicago), Chairman.

A progress report dealing with recent developments in the field of this committee.

51. Hydrants, Valves and Pipe Fittings—Committee Report. (3.25 p. m.) C. W. Mowry (Boston), Chairman.

The chairman of this committee will report to the Association in his capacity of N. F. P. A. representative to Sectional Committees of the American Engineering Standards Committee on Pipe Flanges and Fittings and on Cast Iron Pipe.

52. Report on A. E. S. C. Committee on Identification of Piping Systems. (3.30 p. m.) N. F. P. A. Representative: Ira G. Hoagland.

53. Report of Committee on Resolutions. (3.35 p. m.)

54. New Business. 55. Report of Nominating Committee and Election of Officers. 56. Adjournment.

FIRE DEPARTMENT ACTIVITIES

Terra Alta, W. Va., Has Fire Siren—A new siren has been installed in Terra Alta, W. Va.

Groveland, Mass., Purchases Pumper—Groveland, Mass., has purchased a Seagrave suburbanite pumper.

Leominster, Mass., to Purchase Apparatus—Leominster, Mass., has voted to purchase a 750-gallon pumper.

Milton, W. Va., to Erect Station—Contracts have been let for the construction of a fire station in Milton, W. Va.

Colfax, Wash., Chief Resigns—Chief Dave Powell of Colfax, Wash., tendered his resignation after seven years as chief.

Maxim Pumper Tested in Rockville, Conn.—A Maxim pumper has successfully passed the tests in Rockville, Conn.

Lostant, Ill., Receives Apparatus—A Boyer apparatus mounted on a Chevrolet chassis has been delivered to Lostant, Ill.

Woonsocket, R. I., to Receive Ladder Truck—A Seagrave 85-foot aerial ladder truck will be delivered soon to Woonsocket, R. I.

Ossining, N. Y., to Have New Station—A fire company in Ossining, N. Y., is planning the construction of a fire station to cost $25,000.

Site Purchased for New Haven, Conn., Station—A site has been purchased in New Haven, Conn., for the construction of a new fire station.

Blackwell, Okla., Standardizes Hose Threads—The hose and hydrant threads in Blackwell, Okla., are being rechased to conform with the National standard.

Taunton, Mass., May Purchase Pumper—Chief Fred Leonard of Taunton, Mass., has recommended the purchase of a 750-gallon pumper to cost about $13,500.

Nahant, Mass., May Purchase Apparatus—The New England Fire Insurance Exchange has recommended that Nahant purchase a pumper and a city service truck.

Millersburg, Ohio, Purchases Pumper—Millersburg, Ohio, has purchased a 400-gallon "Deluge" Master Fire-Fighter made by the Prospect Fire Engine Company.

Flappers and Cigarettes Increase Hazard—Chief Graham of Wakefield, Mass., said that cigarette smoking by the "flappers" of the town increased the fire hazard.

Equipment Recommended for Kingston, N. Y.—Chief Joseph L. Murphy of Kingston, N. Y., in his annual report, recommended the purchase of additional equipment.

Sweetwater, Tex., Opens Fire Station—The central fire station in Sweetwater, Tex. has been formally opened, and hundreds of the townspeople availed themselves of the opportunity to visit the station.

New Style Uniforms for Yonkers, N. Y.—Yonkers, N. Y., has adopted the V-neck type of coat for members of the fire department. The men are given two years in which to purchase the new style of uniform.

Jersey City Firemen to Parade—The annual parade of the Jersey City, N. J., fire department will take place on May 21. The men are preparing for the annual event which always attracts a large number of people.

Signal Device Controlled by Siren Shrieks—A Cleveland, Ohio, man has invented a device that controls traffic signals by sound. By the shriek of the fire engine's siren, the traffic signals will show the proper lights to stop traffic.

New Fire Alarm System in Los Angeles—Los Angeles, Cal., has recently installed a new fire alarm system, for which an appropriation of $1,000,000 was made. Heretofore the telephone was largely depended upon.

Waynesboro, Pa., Buys Two Fire Trucks—About June 1, Waynesboro, Pa., will greatly increase its efficiency in fire fighting, orders having been placed with the American-LaFrance Company for two 600-gallon pumpers to cost $19,350.

Gary, Ind., Receives Stutz Pumpers—Two pumpers purchased last year from the Stutz Engine Company for $23,000 have been delivered to Gary, Ind. One of the pumpers will be placed in the central fire station while the other will go to Station 6.

Red Oak, Ia., Firemen Resign—Following a disagreement with the new city council, the firemen of Red Oak, Ia., have resign and decided to abolish their organization. They have distributed the furnishings of the fire station and will divide the $5,000 cash fund in the treasury.

St. Louis, Mo., Completely Motorized—The last four horses in the St. Louis, Mo., fire department have been mustered out of service. The incident was commemorated by a parade led by the Mayor and Chief Alt. A 1,000-gallon pumper is housed in the station which formerly had the horse-drawn equipment.

Fire Lieutenant Quits—Acting Lieutenant Peter J. Lehr, of chemical company No. 7 of 82d street and Tinicum avenue, Philadelphia, has retired from the fire bureau. He was known as "Claw-toe Pete," because of his skill in handling the crowbar-jimmy in getting at the seat of flames. Lehr has been in the fire service 21 years.

Chief Thomas Murphy Addresses Lumber Men—Chief Murphy of San Francisco, Cal., addressed a group of lumber men in reference to his opposition to the proposed extension of the shingle ordinance. He warned of an impending conflagration if high winds ever took place at the same time that a fire broke out in the shingle roof area.

New York Awards Fire Contracts—Fire Commissioner John J. Dorman of New York awarded contracts last week for the following new apparatus: six 1,000 gallon American-La-France pumping engines; twenty Four-Wheel Drive tractors, to cost $114,000, and twelve hose wagons of the International Harvester Company to cost $59,400.

Tarrytown, N. Y., Wants Convention—The fire departments of Tarrytown and North Tarrytown, N. Y., are bidding for the 1927 annual convention of the Hudson Valley Firemen's Association. Chief Lawrence T. Gross and Chief Charles De Lade are exerting themselves in this direction. It is estimated that it will cost about $15,000 to entertain the convention.

Cambridge, Md., Firemen Host to 1,000—About one thousand firemen from Easton, Salisbury, Chestertown, Centerville, Crisfield and Annapolis in Maryland and Milford, Harrington, Laurel and Seaford in Delaware attended the official opening of the new fire quarters in Cambridge, Md. A parade followed the formal addresses.

Give Dinner to Commissioner Murphy—On the eve of his departure on a European trip, a dinner was tendered on April eighth to C. Hayward Murphy, President of the Board of Fire Commissioners of Detroit, Mich., by the Box 12 Associates and the Detroit Fire Department Executive Staff. The affair was held at the Book-Cadillac Hotel. Commissioner Murphy sailed April 14th on a six weeks' trip.

Greenville, O., Repeals Fireworks Ordinance—Greenville, Ohio, has repealed the fire works ordinance which has been in force for two years and prohibited the sale of fireworks for celebrating the Fourth of July. In the petition that was presented by one hundred merchants, it was stated that a large part of the harm was removed from fire works and besides only the safe type of fireworks would be sold.

Buffalo Corporation Announces New Models

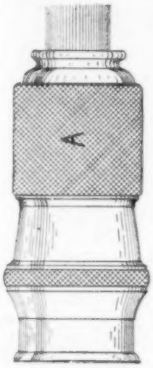
The Buffalo Fire Appliance Corporation of Buffalo, N. Y., announces its new Models 50, 55, 60, and 65 in this issue.

All types are highly developed in design, construction and engineering and are intended for community fire protection. In designing this new equipment each and every part has been carefully carried out to cope with the unusual strains encountered in fire apparatus work. The material, workmanship and accessories are of the highest quality and the general appearance has not been overlooked.

Models 50 and 55 have 6B Continental Motors and 4 speed Brown-Lipe Model 51 transmissions. Type 50 and 55 are equipped with Rotary Type "S" Pumps capable of delivering 500 gallons per minute at 120 lbs. pressure, both jobs being built to accomodate 1200 foot hose bodies. The only difference between Type 50 and 55 is that the Type 50 comes equipped with a 75-gallon Booster tank built in the hose body, while Type 55 has two 40-gallon chemical tanks, located immediately back of the pump.

Models 60 and 65 have 7T Continental Motors and 4 speed heavy duty Brown-Lipe Model 55 Transmissions. Type 60 and 65 are equipped with Rotary Type "SU" pumps, capable of delivering 600 gallons per minute. Like the 50 and 55 the difference in the two models is in the booster and chemical tanks.

Twelve hour Underwriters tests have been run on all models and satisfactory results attained.



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Four Points of Superiority

1—It Fits the Stream to the Blaze.
2—It is a Perfect Shut Off Nozzle.
3—No Need of Changing Tips.
4—Cannot Clog or Get Out of Order.

Water way has been enlarged to deliver more water and nozzle contains no weak parts to break or wear out.

Write for Full Descriptions.

L. P. Brown Machine & Tool Co.,
Attleboro, Mass.

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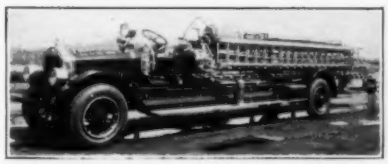

If your apparatus is Maxim-built it will prove dependable and reliable at all times.

Complete information upon request.

MAXIM MOTOR COMPANY, Middleboro, Mass.
Metropolitan Sales Agents:
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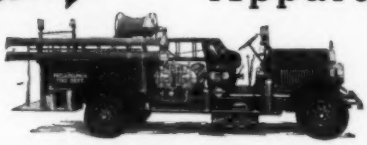
Sanford Fire Apparatus



All Types and Sizes

Fire Apparatus Division
SANFORD MOTOR TRUCK CO.
Syracuse, N. Y.

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FIRE BOAT EQUIPMENT

Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

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Quality Fire Apparatus

300 to 750 Gallon Triple Combination Pumpers, City Service Trucks, Combinations and Chemical Cars.

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Smoke and Fume Respirator

Firemen who enter buildings filled with smoke, fumes and poisonous gases will find the "DONTFEAR" an absolute protection. Hang around neck before putting on helmet, always ready for use.

Price $5. With airtight goggles and 5 extra canisters $7.50.

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Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

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Full Line Fire Dept. Supplies and Equipment.

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Siren with Storm Hood

1. Double-tone, and of greatest carrying power.
2. Ball bearings throughout.
3. Accurately machined and balanced.

30 Days' Free Trial

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Sauk City, Wis.

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of every description, stronger than lead and none-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

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Fire Apparatus
Fire Department Ladders
Fire Fighting Appliances

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1320 Ridge Ave., Philadelphia, Pa.
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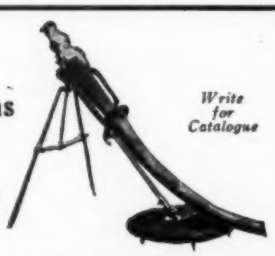
The LARKIN Mfg. Co.

Dayton, Ohio

High Grade Fire Dept. Supplies of All Kinds

Eastman Improved Platforms and Holders



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are indispensable where high pressure service is required. With Eastman equipment any size streams can be easily handled by one man.

Eastman Nozzles and DeLuge Sets

are designed by engineers who for over thirty years have specialized in equipment for producing fire-fighting streams that are unsurpassed for solidarity, distance and effectiveness.

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Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

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A Word to Our Readers:

DO you ever stop to think that every advertiser in these pages offers either a **product** or a **service** that has certain unique advantages which he believes will interest and be of value to **you**? Otherwise it wouldn't be worth his while to advertise.

Almost every page contains the offer of some product or service that you would find of value in your department. It will pay you to read the advertising pages as carefully as you do the editorial.

"The wise man is he who is always willing to learn." It will pay you to read the advertising pages carefully. THE PUBLISHERS.

FALSE ALARMS

A BET OF FIVE WHAT!

By JAMES KENNELLY

"That's a bad cold you have, Marty," warned Engineer Kleetz, after having to suffer hearing Fireman Keegan "barking" thunderously for a three minute period. "Why don't you have it attended to before it gets you; you know it's only just after the holidays an' the boys are in no position financially to be payin' for flowers."

"That's not a cold I have, you dum'bell," Marty replied, disapprovingly, "that's only a cigarette cough; nothin' to it except a lot of noise."

"Well, why don't you get wise to yourself then an' give up them damn cigarettes before they get you?" returned Kleetz, repeating the warning. "You know it isn't so pleasant on these cold wintry days to be chasin' the remains an unreasonable distance."

"Why in the divil don't you practice what you preach?" asked Keegan, angrily, "you're an addict yourself, why don't you quit smokin'?"

"Well, you don't hear me yelpin' the way you do, do you?" Joe asked. "I'm not a public nuisance like you are, every night keepin' everybody in the bunkroom awake. Smokin' does me no harm an' I get a great deal of pleasure out of it."

* * *

"Well, I'll tell you what we'll do, Joe," suggested Marty, with an air of imagination, "we'll both stop smokin' an' so's to make it interestin' an' compellin' we'll set aside 'five' each to be claimed by the one who first catches the other with smoke comin' out of his mouth."

"Let me get that right!" said Kleetz, "if I catch you smokin' at any time or place from now on I'll collect 'five' from you, is that it?"

"It is," replied Keegan, facetiously, "an' if I get you at any time or place with smoke issuin' from your 'mush,' you'll hand 'five' over to me."

"Then the final understanding is," said Kleetz, puckering his eyebrows, "hearsay or circumstantial evidence will not be taken into account; one must get the other with——"

"Dead to rights!" interrupted Keegan.

From then on, Marty, as a precautionary measure, quit smoking cigarettes entirely,—that is, his own cigarettes, but, incidentally, the demand made upon the other firemen's supply increased 1,000%.

For the next couple of weeks Joe, determined that sooner or later he would pounce upon his prey and he made several trips to the vicinity of Marty's residence.

Both firemen became so wary of each other the task of one catching the other seemed impossible. However, the night Eddie Roberts and Joe Dundee met at Madison Square Garden, Marty, who had a $2.00 bet on Roberts, was on watch when their fight went on, and with his ears trained he was able to hear a little of the blow by blow description coming from the radio on the top floor as he sat on his chair at the watch-desk.

The men sitting around the loud speaker on the top floor suddenly became very excited when Roberts floored Dundee in the fourth round. They kept shouting: "He's got 'im; he's got 'im!" This aroused Marty's excitement, and in his anxiety to inquire if his man had won, he ran to the bottom of the stairs. He forgot himself for the moment—a long trail of white cigarette smoke came through his mouth.

"I've got you, Marty!" exclaimed Kleetz, who, on his stomach, was lying in wait like a cat watching a mouse at the pole hole in the bunkroom, his head head extending halfway down the hole to the apparatus floor, "an' there's no hearsay or circumstantial evidence about it either. I got you with the goods at last, Marty," he hastened to tell him. "I saw the smoke comin' right out of your mouth an' swellin' into a cloud as it traveled up the stairway in my direction."

"You didn't, you didn't!" Marty shouted, with visions of having to "come across" with a "five spot" to Kleetz.

"Oh I did so, Marty—I did—I did, an' you know it," argued Kleetz. "You pay the bet now, Marty!"

"No, no, Joe!" exclaimed Keegan, pleadingly, "you didn't catch me at all; I wasn't smokin'—honestly I swear I wasn't!"

"Come on now, Marty—don't be a cheap skate—pay the bet!" Kleetz pleaded, diplomatically. "If you got me —I'd pay."

* * *

"I knew if it took me a month," shouted Keegan, very happy, the next morning as Engineer Kleetz and four firemen were sitting around the table, enjoying a smoke after having finished their coffee and rolls, "I'd get you! I have how many?—four witnesses!"

"All right, Marty—you win!" returned Kleetz, with the air of a good loser, digging into the pocket of his turnouts. "Here you are," he said, handing Keegan five bills he clipped from a roll.

"What are those?" asked Keegan, enigmatically.

"The 'five' you won," laughed Kleetz.

"Come on, come on!" thundered Marty, tossing the five old German Marks on the table, "where do you think you are, in Germany?"

"Why, you dum'bell," retorted Kleetz, in an ectasy of laughter, knocking Marty as cold as a mother-in-law's kiss, "you drew up the rules but you failed to specify five what!"

TROUBLE LOCATED

A woman who saw a fire apparatus come shrieking down the street thought that she still had time to cross—but she only thought that. The apparatus struck her lightly. A policeman rushed over to her.

"Just where are you hurt?" he asked.

"Well," said the injured lady, "if I had been wearing a license plate, it would have been badly damaged."

SYSTEM FOR SALE

West Kennebunk, Me., can have a fire alarm system for the small sum of fifty dollars, according to a communication which the town officials received. It is as follows:

"Have been informed that your city has no means of alarm for fire except someone to holler. We would like to install our new invention either on the fire barn or on top of the railroad station. It consists of a box containing a dog with a tin can tied to his tail. When a rope is pulled, it shoots off an air rifle which hits and releases the dog. He goes up the street yelling, giving the alarm for the bucket brigade. The cost of installing, inclusive of the dog is fifty bucks."

Whether the inventor sold his system has not been made public.

EXTRA HAZARDOUS

"Why did the insurance people refuse Horace any insurance?"

"Too hazardous," replied the other. "He wears a celluloid collar and drinks fire water."

On the letter heads of the fire department in St. Stephens, N. B., Canada, is the following phrase: We aim to save more than the cellar.

Speaking of Rats—

The fire department of Schaumberg, Ill., had the experience of having rats make a nest in their fire hose. At a recent fire, the rats in the hose blocked the flow of water to such an extent that fire destroyed $40,000 worth of property. Those interested in the derivation of popular phrases might investigate this incident for the phrase, "Drowned like rats."

The Burrell All Service GAS MASK

The Standard for the Fire Fighters of America

The Burrell All Service Gas Mask is the only mask approved by the United States Government for complete protection against Carbon Monoxide, Ammonia and every known poisonous gas. Write for Bulletin F-3.

Mine Safety Appliances Co.

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B & M *SIREN*

Did You Hear Our Sirens While You Were in New Orleans?

You could not have helped hearing them. Fire Chief Evans' car had one on, the Ahrens-Fox Aerial Ladder had one on their exhibit car and have made the B & M Siren standard equipment on their apparatus. The American-LaFrance Fire Engine Company had a B & M on their exhibit car; our own demonstrator was there, and I know that you heard the Sirens in the parade. We blew them steadily for one and a half hours without any intermission. The B & M is the only siren today that you can blow for that length of time. Why? Because it is mechanically driven.

Write for complete information. We gladly send B & M Sirens to any city on approval, transportation prepaid.

B & M Siren Manufacturing Co.

Lester H. Miles, Owner

931 So. Main St. Los Angeles, Calif.

A Nation-Wide Service for Better Protection Against Fire Loss and Water Damage

PROTECTION A.D.T. SERVICES

The remarkably efficient A. D. T. System of Central Station Night Watch and Fire Alarm Service has played a large part in helping to cut down the fire loss of the country; and the A. D. T. System of Sprinkler Supervisory Service has been instrumental in saving millions of dollars in water damage.

An Invaluable Service

It is generally known that water damage in sprinklered premises is considerably greater than fire damage, and it is a fact that in a great majority of sprinklered equipments no one on the premises knows how to shut off the water. Hence, the great importance and value of our Supervisory Service in not only recording water flows, but immediately sending representatives who know how to stop them.

Over $20,000,000,000

worth of property throughout the country is protected by A. D. T. services, and fire officials in cities everywhere are finding A. D. T. cooperation an invaluable aid in their work.

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Controlled Companies

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Executive Offices, 183 Varick St.

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Made to meet local conditions. Four sizes. Operated by either steam or air.

Worcester Fire Alarm Signal is the result of many years' manufacturing experience. Built by specialists.

Our catalog R-51 will give you interesting information. It is yours for the asking.

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UNION

Water Meters - Chronometer Valves

Easy Turning Stops - Pressure Regulators

Presses for Lining Pipe - Alarm Signals

Today's the Time! Here's the Place! To Get Complete Information!

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Now is the time to get complete information on all new equipment you are planning to purchase for your department during the year.

Just run down the list of equipment, fill out the coupon below, and mail it to us with the numbers that indicate the equipment in which you are interested.

We will then notify reliable manufacturers of your interest in such equipment and request that without cost to you or any obligation they send you the information you desire.

They will gladly do this. So go to it! Ask for what you want. This page is for your convenience. Use it now—and whenever you decide to buy new equipment of any kind.

—TEAR OFF HERE—

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225 West 34th St., New York City.

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55 Hose Clamps.
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59 Hose Jackets.
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104 Uniforms.
105 Water Towers.
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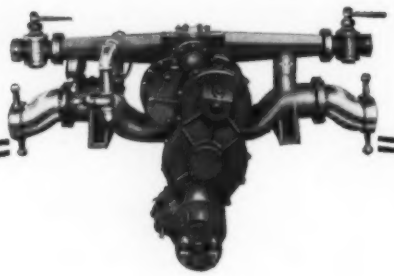
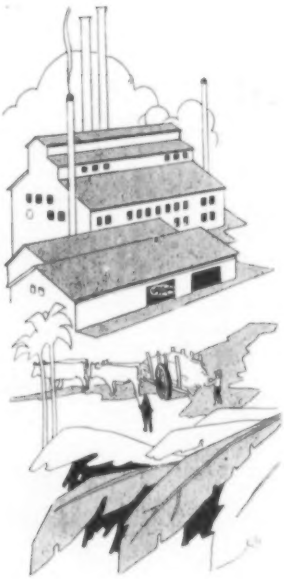
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

For Information on Any Equipment Not Listed Above, Write on This Page or Use Separate Sheet.





Pumping Glucose Is No Cinch

WHEN glucose is cold you can walk on it. It's sticky mean stuff to handle at best. A few years ago glucose was sold to candy factories in barrels. It was trucked from car to factory and from the ground floor of the factory to the top floor. From that point it flowed by gravity to cooking kettles below.

But glucose could be purchased 20% cheaper in cars and this would save all cartage and trucking charges, —if a pump could be found that would handle glucose successfully.

So successful have Northern Rotary Pumps been in solving this problem that the Clinton Corn Syrup Refining Company, one of the largest refiners of glucose, have standardized on Northern for pumping glucose.

This is the result of confidence built through the faultless operation of the constantly growing number of Northerns in this industry since 1919.

The selection of Northerns by leading Engineers for this and similar exacting services is proof of their correct design and manufacture.

Specify Northern Rotary Pumps for your fire apparatus. You can buy them through any one of 13 successful fire apparatus manufacturers.

Northern Pumps are doing big things in the industrial world — performing exacting services — establishing records for dependability, durability and efficiency.

Many of the world's largest users of pumps buy Northerns regularly.

Northern Pump ads will tell you interesting, impressive provable facts of the things that are being done by Northern Pumps that no other Rotary fire pump has done.

This is one of a series of such ads.

NORTHERN ROTARY PUMPS

"MORE GALLONS PER HORSE POWER"

NORTHERN FIRE APPARATUS CO.

902—18th Ave. N. E.
MINNEAPOLIS, MINN.

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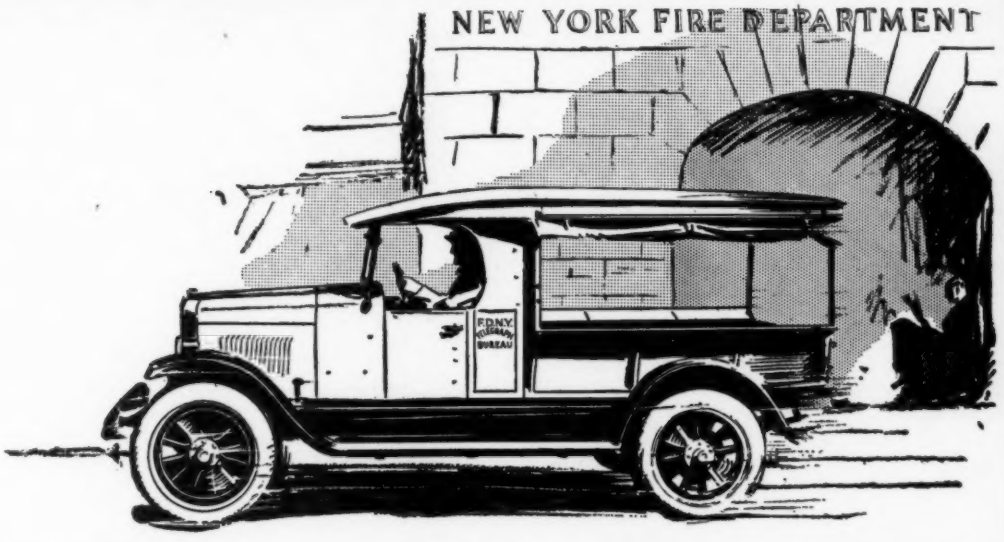

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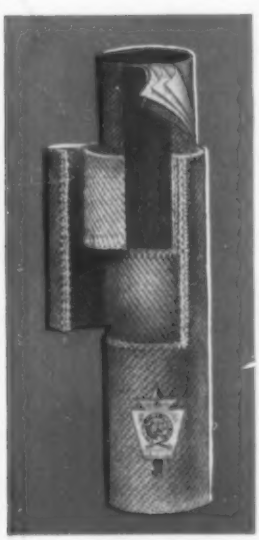

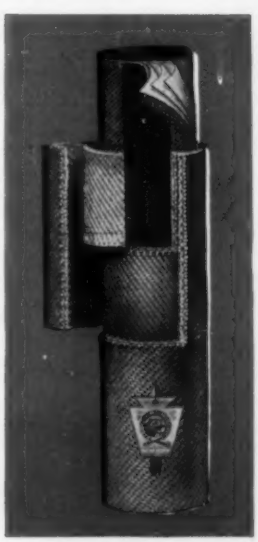

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